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The Journal of The Medical Association of Georgia

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Volume XXIV

January-December, 1935

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Preventive Medicine and Hygiene: Milton J. Rosenau, M.D., Professor of Preventive Medicine and Hygiene, Harvard Medical School, 1475 pp., publishers: D. Appleton--Century Company.

This text-book has worn well in American medical literature and this new sixth edition has brought up-to-date matters of great importance to all concerned, namely, the people.

For the first time the author has included in the book such material as: Contraception, Maternal Mortality, Heart Disease, Diabetes, Ringworm, Snake Poisoning, Psittacosis, Periodic Health Examinations and Hospitals. All chapters have been rewritten and reset and the index is complete.

Review of Medical Progress, 1935, George Morris Piersol, Editor; 1192 pp., including 89 illustrations, publishers F. A. Davis Co., Philadelphia, price \$10.00.

This volume covers many special fields of medicine and surgery, beginning with allergy and ending with a discussion of the newer knowledge of dietetics. One important chapter deals with diseases of the teeth and gums with particular reference to dental caries and Vincent's infection.

The book is, as its name implies, a compilation of medical progress and will bring the reader up-to-date on many subjects. The illustrations are excellent and the type is most agreeable.

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Treatment of Severe Diabetic Acidosis. Alexis F. Hartman. Archives Int. Med. Vol. 56, No. 3, September, 1935. In a very comprehensive article the author goes thoroughly into the different methods he has used in treating this condition. He compares the cases treated only with insulin, those treated with insulin and also sodium bicarbonate intravenously and those treated with insulin and sodium lactate intravenously. His results show rather conclusively that the latter method of treatment is by far the most efficacious and the patients respond much more promptly. The treatment roughly is as follows: 60 cc. of a sixth molar solution racemic sodium lactate per kilo of body weight and 40 cc. of Ringer's solution per kilo of body weight, 2 units of insulin per kilo of body weight at once and repeat in six hours in a dose of $\frac{1}{2}$ unit per kilo; 500 cc. citrated blood is given as a transfusion if edema due to reduced plasma protein is present.

Abstract by Wm. R. Minnich, M.D.

Heat Cramps. John H. Talbott, Medicine—September 1935—Vol. 14, No. 3. The author, in a most thorough manner, gives a detailed account of the history of heat cramps; then, in the same manner, a complete description of the condition and all factors concerned. A number of cases were studied, the protocols of which are presented. The conclusions arrived at were: that in the prevention of heat cramps in men laboring under high temperatures the principal factors were (1) a good state of health, (2) adequate nutritious diet and, (3) most important, an intake of approximately 1500 cc. daily of 0.1 per cent saline water by mouth.

In the treatment of cramps the patients were given 600 to 1,000 cc. of normal saline intravenously, depending on the dehydration of the individual.

Abstract by Wm. R. Minnich, M.D.

The Eighty-Seventh Annual Session of the Association will be held at Hotel DeSoto, Savannah, April 21, 22, 23, 24, 1936.

WOMAN'S AUXILIARY

OFFICERS

President—Mrs. Ernest R. Harris, Winder.
 President-Elect—Mrs. Wm. R. Dancy, Savannah.
 First Vice-President—Mrs. Hulett H. Askew,
 Atlanta.
 Second Vice-President—Mrs. Warren A. Coleman,
 Eastman.
 Third Vice-President—Mrs. T. J. Ferrell,
 Waycross.
 Recording Secretary—Mrs. W. R. Garner,
 Gainesville.
 Corresponding Secretary—Mrs. S. T. Ross,
 Winder.
 Treasurer—Mrs. W. M. Cason, Sandersville.

Historian—Mrs. Marvin F. Haygood, Atlanta.
 Parliamentarian—Mrs. Ralph H. Chaney, Augusta.
Committee Chairmen
 Health Films—Mrs. A. J. Mooney, Statesboro.
 Student Loan Fund—Mrs. Benjamin Bashinski,
 Macon.
 Public Relations—Mrs. J. A. Redfearn, Albany.
 Press and Publicity—Mrs. J. Harry Rogers,
 Atlanta.
 Jane Todd Crawford Memorial—Mrs. Eustace A.
 Allen, Atlanta.
 Research in Romance of Medicine—Mrs. D. N.
 Thompson, Elberton.

MEETINGS AND NEWS ITEMS

Third District

The Auxiliary to the Third District Medical Society met at the Sewanee Hotel, Cordele, on November 13th. Twenty members were present.

Mrs. Warren C. Coleman, Eastman, Acting District Manager, presided at the business session. Reports were made for several counties which showed that public health was being stressed and the members had worked in cooperation with other civic organizations.

Officers elected for the ensuing year were: Mrs. E. B. Davis, Byromville, District Manager; Mrs. John E. Walker, Columbus, Vice-District Manager; Mrs. V. C. Daves, Vienna, Secretary-Treasurer. Mrs. Daves has filled this office for nine of the eleven years since the organization of the Auxiliary.

After the meeting, the members were entertained at a show and tea.

Barrow County

A meeting was held at the home of Mrs. W. T. Randolph, Winder, on September 4th. The following officers were elected: Mrs. C. B. Almand, President; Mrs. R. P. Adams, Vice-President; Mrs. S. T. Ross, Corresponding Secretary; Mrs. E. R. Harris, Recording Secretary; and Mrs. W. T. Randolph, Treasurer. All officers reside in Winder.

Committee chairmen appointed by the President were: Mrs. W. T. Randolph, Health Education, Public Relations and Hygiene; Mrs. W. L. Mathews, Organization and Jane Todd Crawford Memorial; Mrs. R. P. Adams, Legislation and Health Films; Mrs. S. T. Ross, Historian and Research in Romance of Medicine; and Mrs. E. R. Harris, Press and Publicity.

Members of the Barrow County Auxiliary who hold offices in the State and district

organizations are: Mrs. E. R. Harris, Winder, President of the State Auxiliary; Mrs. C. B. Almand, Winder, Health Committee; Mrs. W. T. Randolph, Winder, Historian for the Ninth District Auxiliary. A resolution by Mrs. S. T. Ross, Winder, to adopt the "Fox Glove" (*Digitalis*) as the official flower of the Woman's Auxiliary to the Medical Association of Georgia was approved at the annual convention in May, 1935, held in Atlanta.

Mrs. W. T. Randolph and Mrs. R. P. Adams, both of Winder, were elected delegate and alternate delegate to the Ninth District Auxiliary, respectively.

Mrs. W. L. Mathews, Winder, was introduced by Mrs. S. T. Ross, Chairman of the Program Committee, and read two papers, titles were, "Lyman Hall, Physician, Signer of the Declaration of Independence and Governor of Georgia" and "Chamomile Tea and Brandy Toddy" which explained how doctors of Colonial days treated disease.

Chatham County

The Auxiliary held its November meeting at the home of Mrs. L. A. DeLoach, Savannah. Mrs. A. A. Morrison, Entertainment Chairman, was in charge of the program. An interesting and novel feature consisted of the showing on a screen the pictures of the members taken in babyhood and youth. Mrs. Hugo Johnson, President, presided.

Enthusiastic reports were given of the card party sponsored by the Auxiliary at Hotel Savannah on October 25th. The members were pleased with the profit of the undertaking.

Mrs. L. W. Williams was elected delegate to the Southern Medical Association for its session held in St. Louis in November.

Mrs. Louis Roos talked on the work accomplished by the American Red Cross. Mrs. DeLoach asked for donations for the Tuberculosis Association.

Fulton County

The November meeting was held at the Academy of Medicine, 38 Prescott Street, N.E., Atlanta, on November 1st. Mrs. Calhoun McDougall, President, presided.

Mrs. Wm. Willis Anderson, Secretary; Mrs. Leland Baggett, Treasurer; and chairmen of standing committees made interesting reports.

Mrs. Charles Boynton, Chairman of the Program Committee, sponsored the following program: "Public Health Work in the South," Dr. J. E. Sunkes, Assistant Director, State Department of Public Health; "The Work of the Atlanta Tuberculosis Association," Miss Logan; "Public Health Work from the Viewpoint of the Voter," Miss Josephene Wilkins, President of the Georgia League of Women Voters."

NEWS ITEMS

Mrs. W. M. Cason, Sandersville, has recovered from an illness which kept her for a time in the hospital.

Mrs. Ernest R. Harris, Winder, President of the Auxiliary to the Medical Association of Georgia, sat on the rostrum by invitation at Grant Field, Atlanta, November 29th, during the Roosevelt Home-Coming Celebration.

The Barrow County Auxiliary gave a benefit party at the home of Mrs. W. T. Randolph, Winder, on September 16th. Red zinnias and salvias were predominant in the decorations. A salad course with tea was served. All members were delighted with the entertainment and financial success.

Mrs. Hugo Johnson, Savannah, President of the Auxiliary to the Georgia Medical Society, has been sick with a severe cold.

Dr. and Mrs. W. T. Randolph, Dr. and Mrs. E. R. Harris, and Mrs. S. T. Ross, all of Winder, attended the meeting of the Ninth District Medical Society and Auxiliary held at Gainesville on September 18th. Mrs. Randolph responded to the Address of Welcome in the Auxiliary meeting. Mrs. E. R. Harris, President of the State Auxiliary, spoke as its official representative.

Tribute to Mrs. Myron Bartlett Allen

The Woman's Auxiliary to the Jackson-Barrow Counties Medical Society lost one of its most valuable members in the recent death of Mrs. Myron Bartlett Allen, Hoschton. The following tribute is reprinted from the Jackson Herald, Jefferson, November 14, 1935:

"(By a Co-Worker in the Woman's Medical Auxiliary)

The chain of the Woman's Medical Auxiliary of Jackson County has been broken

in the passing of Mrs. M. B. Allen on October the 25th, 1935.

'Tis sad, indeed, that our connections in this world are forever ended, that the broken link of the chain which bound us lie around in ruin, which no earthly hands can again unite.

In sorrow's darkest hour, her memory is benediction; in vistas of beautiful autumn foliage she rests now, and this time of the year will always bring her gracious presence to us.

We will miss her gentle presence, her ever responsive personality, and that noble heart, ready with love and sympathy for all who deserve either of them.

Character survives; goodness lives; love is immortal,

"To live in hearts we leave, is not to die."

It is useless to rehearse the places of honor she has held in our Auxiliary, for all know that they were justly conferred, and that she performed them well. She walked with us as a guide, counselor and friend, and now she has passed beyond our vision, her spirit will ever linger with us to encourage and uplift.

We thank God for the comradeship of Virginia R. Allen, who has been taken from us in the midst of her usefulness; and now that the scenes of life have forever closed upon her, we desire to express the sentiments of affectionate regard, which association in the work has inspired us.

The busy living come and go,
But as we see them, eye to eye,
In some strange, subtle way we know,
We're closer to the ones who die.

Although we think of one member as gone,
In memory, brave and true she'll stay,
Inspiring us to carry on,
And guiding us along the way."

WANTED

Position as laboratory technician, x-ray technician, doctor's assistant or bookkeeper; or a combination of all. Excellent training and experience. Capable and experienced in physiotherapy and artificial pyrexia. Age 25. Best of references. Write "L" care of the Journal.

WANTED

Position as prescriptionist to M.D. who is owner of drug store. Will work as manager, bookkeeper and orderly. Prefer small town. Best references. Write "C", care of the Journal.

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SYMPOSIUM ON TYPHUS FEVER

Dr. Dougherty and Dr. Sellers

ENDEMIC TYPHUS FEVER IN GEORGIA*

MARK S. DOUGHERTY, JR., M.D.
Atlanta

The occurrence of eight cases of typhus fever on our service in the white, male ward of Grady Hospital last fall aroused my interest in this disease. The objects of this paper are: (1) To present a review of the records of patients with typhus fever admitted to the hospitals of Atlanta from 1926 to 1934. (2) To report several of the cases that came under my observation. (3) To review the incidence of typhus fever in Atlanta from 1929 to 1933, inclusive. (4) To call attention to the tremendous increase in the reported incidence of typhus fever in Georgia from 1929 to 1933, inclusive.

There is no brighter chapter in the history of medical achievement than that dealing with the development of our present knowledge of typhus fever through careful and accurate clinical and experimental study. In the United States there have been three major steps forward in the evolution of this knowledge. Gerhard¹, in Philadelphia, in 1836 first differentiated in this country between typhoid fever and epidemic typhus fever. His work is outstanding for his careful clinical study, his accurate observations and straight thinking. Equally as brilliant was the work of Dr. Nathan Brill² who, in 1910, first described endemic typhus fever as we see it and differentiated it from epidemic or old world typhus fever. The final step forward was made by Drs. Maxcy, Rumreich, Dyer and Badger³ of the United

States Public Health Service, who proved that there exists in nature a permanent rodent reservoir for endemic typhus fever in the Norwegian wharf rat and that the disease is transmitted to man through the feces of infected rat fleas. Also I would like to call attention to the fact that the first case of endemic typhus fever in Georgia was reported in 1913 by Paullin⁴ of Atlanta.

Endemic Typhus Fever in the Hospitals of Atlanta

A review was made of the charts, of all patients dismissed from the hospitals of Atlanta with the diagnosis of typhus fever, from 1925 to January 1, 1934. This study was made to determine if the disease had increased in severity with the passing of time and the occurrence of a larger number of cases. Sixty-nine patients were dismissed from the hospitals with the diagnosis of typhus fever. Nine of the cases were not included in this study because the diagnosis was doubtful. The remaining sixty charts were reviewed and the following facts were obtained from them:

Onset.—A definite prodromal period preceded the onset of the disease in sixteen of the sixty cases. This period lasted from three to seven days in fourteen of the sixteen cases. The symptoms usually noted were headache, generalized aching and a feeling of general malaise. No history of the onset could be obtained in five instances.

In thirty-nine cases the onset was sudden and the symptoms noted, in the order of their frequency, were a rapidly rising fever, headache, backache, chills, nausea and vomiting, weakness, anorexia, nervousness and cough. In the large majority of these cases the onset occurred in the late afternoon or night.

*Read before the Medical Association of Georgia, Augusta, May 9, 1934.

Temperature		Year	Month	
Days	Cases			
10	1	1925—5	January	—3
11	2	1926—4	February	—1
12	5	1927—3	March	—3
13	4	1928—2	April	—0
14	33	1929—1	May	—1
15	4	1930—1	June	—1
16	4	1931—5	July	—1
Uncertain	7	1932—13 1933—23	August	—10
			September	—17
			October	—14
			November	—4
			December	—2

CHART 1: Duration of Temperature. Also the Number of Cases by Year and Month.

Clinical Course.—Headache was the predominating symptom throughout the course of the disease in fifty-three of the sixty cases. Backache occurred in forty-two cases, chilliness in thirty-six and nausea and vomiting in thirty-six. Other symptoms noted frequently were prostration, anorexia, insomnia, lethargy, constipation, excessive perspiration, diarrhea and coryza. Ten of the patients complained of nervousness and nine were irrational at some time during the illness. The duration of the disease (Chart 1) was fourteen days in thirty-three cases and did not last longer than sixteen days in any instance. In the large majority of cases the disease ended by lysis, while in a much smaller number a crisis occurred. It was not an unusual occurrence for the temperature to recur for a day or two after it had remained normal for twelve or twenty-four hours. In only a few cases was convalescence in the hospital protracted. Most of the patients were dismissed in from three to six days after the temperature reached normal.

The temperature reached 102 degrees to 105 degrees in from three to seven days. Usually the maximal temperature occurred by the fifth day. The highest temperature noted in any case was 105.5 degrees. A diurnal variation in the temperature of from one to five degrees occurred. Usually this variation was from one to three degrees. The highest temperature occurred in the afternoon and evening and the remission in the morning. The pulse and respiration were

usually slow in proportion to the temperature.

Rash.—The records were frequently incomplete about the onset, duration and distribution of the rash. Notation of a skin rash was made in forty-two of the sixty cases. The rash was first noted as follows: fourth day in four cases, fifth day in eleven cases, sixth day in eight cases and the seventh day in four cases. The duration of the rash was from five to ten days as follows: five days one case, six days three cases, seven days seven cases, eight days two cases, nine days four cases and ten days four cases. It appeared first on the anterior surface of the lower chest and upper abdomen and frequently was not present elsewhere. In several cases it spread to the upper part of the thighs, the inner surface of the arms and the back. It was observed on the face in two instances. The rash consisted of pink to dull red macules which faded but did not completely disappear on pressure. Also the rash was usually more noticeable when the temperature was high.

Physical Findings.—The physical findings were negative in sixteen cases. The most frequent positive findings were flushed face, conjunctivitis, nasopharyngitis, abdominal tenderness and the skin rash already described. The spleen was enlarged in only four cases.

Age and Sex of the Patients.—The youngest patient was seven years of age and the oldest sixty-eight. The disease is rare in childhood. Twenty-two patients were between twenty and thirty years of age and eleven were between thirty and forty years of age. The disease occurred in thirty-seven males and twenty-three females.

Race and Occupation.—Fifty-four patients were white while only six were negroes. The occupations noted on the records were: housewives 6, salesmen 4, produce workers 6, waiters 6, students 7, physicians 2 and nurses 2.

Laboratory Work.—The leukocyte count was less than 5,000 in six cases and above 10,000 in fourteen cases. In nineteen cases it was between 5,000 and 7,000 and in nineteen cases between 7,000 and 10,000. In ten cases where more than one leukocyte

count was made there was a rise in the count as the disease progressed while in only three cases was there a drop in the count as the disease progressed. The polymorphonuclear white cells were above 75 per cent in twenty-nine cases and below 60 per cent in only five of the sixty cases.

The Weil Felix agglutination test was reported positive in forty-one of the sixty cases. In the remaining nineteen cases the clinical course seemed to justify a diagnosis of typhus fever. Also in all probability positive agglutination tests had been obtained in most of the cases and no notation was made on the hospital record. The agglutination test was positive from the fifth day of the disease to the twenty-fifth day after the disease. In several instances it was reported negative or doubtful and twenty-four hours later was found to be strongly positive. In one case it was negative on the third day, positive in dilutions of 1: 60 on the fourth day, 1: 320 on the fifth day and 1: 2560 on the seventh day. The Weil Felix and Widal tests were both positive in six of the cases.

Report of Cases

Case 1—A 28-year-old produce salesman was admitted to the hospital October 22, 1933, complaining of headache, pain in the lower abdomen, backache and epistaxis. Six days before admission to the hospital he noticed a general feeling of malaise and fatigue. Two days later he developed a severe frontal headache, and experienced periods of chilliness and about the same time he began to feel feverish. Headache continued as the predominating symptom and he gradually developed backache, generalized muscular aching, abdominal pain, nose bleed and photophobia. On admission to the hospital the temperature was 102.2 degrees, pulse 94 and respiration 22. The face was flushed, conjunctivae reddened and there was marked photophobia. The tongue was dry and heavily coated with reddened margins. The tonsils were inflamed and the nasopharyngeal mucous membrane was reddened. A bloody serous discharge exuded from the nostrils. Over the skin of the thorax and the abdomen anteriorly were scattered indistinct pink macules which did not disappear on pressure. The rash disappeared by the sixteenth day of the disease. The leukocyte count on admission to the hospital was 8,400 with 83 per cent polymorphonuclear cells and the red blood cells numbered 3,950,000. Ten days later the leukocytes numbered 10,400. Agglutination tests were done on the ninth day of the disease and the Weil-Felix test was strongly positive. The temperature reached its

maximum of 104 degrees on the 7th day of the disease, showed a diurnal variation of one to three degrees and subsided by lysis on the sixteenth day. Throughout the course of the illness the pulse was slow in proportion to the temperature. Convalescence was uneventful.

Case 2—A 21-year-old white furniture maker after having noticed a general feeling of malaise for several hours had a chill at ten o'clock the night before admission to the hospital. His head and back began to ache and he developed a rapidly rising temperature. The following day he was admitted to the hospital complaining of chills and fever, headache, backache, abdominal pain and cough. The temperature was 102 degrees, pulse 88 and respirations 24. The physical examination was essentially negative. The leukocyte count was 9,700 with 75 per cent polymorphonuclear cells and the red cells numbered 3,810,000. The temperature attained a maximum of 104 degrees on the fourth day, showing a diurnal variation of from two to six degrees and ended by crisis on the fourteenth day. No skin rash occurred during the course of the disease. The Weil-Felix test was positive in a dilution of 1: 320 on the fourteenth day. Convalescence was uneventful.

Discussion

Cases of typhus fever have been treated regularly in the hospitals of Atlanta for the past several years. The increase noted in the hospitals generally parallels that noted in Georgia. It would seem that this indicates a general increase in the incidence of the disease and is not due entirely to more accurate diagnosis. Also in 1933 it is of interest to note that twenty-three out of fifty-three reported cases of typhus fever in Atlanta were treated in the hospitals. This general percentage of hospital cases seems to be constant for four of the five years in which the disease is reported in Atlanta.

The clinical features of the disease as brought out in this review do not differ from those usually described. In comparing the cases year by year and also with those reported by Dr. Paullin in 1913 there does not seem to be any actual increase in severity of the disease. However, in elderly people the disease seems to be more severe. The two cases reported offer a marked contrast in the termination of the disease, one having a decided crisis and the other ending by lysis.

In 1931 Rumreich³ identified certain cases of fever in the Appalachian Mountains as Rocky Mountain spotted fever. This disease is in many respects similar to endemic

typhus fever. It has been known in the Rocky Mountain section for many years and is a Rickettsial disease contracted from the bite of an infected wood tick. In all probability this disease also has a permanent animal reservoir in certain wild rodents. Already one case of this disease has occurred in Georgia. This case was diagnosed by Dr. Houseworth of Douglasville and was seen by Drs. Sellers and Selman, who confirmed the diagnosis. For this reason the doctors in Georgia should be on the alert for other cases.

†Salient features of endemic typhus fever and Eastern type Rocky Mountain spotted fever contrasted.

†ENDEMIC TYPHUS FEVER

Endemic, occurs sporadically
Mortality 1 to 4 per cent
Occurs most frequently in late summer and fall
No respect of social status
Not associated with crowding
Infection obtained from the feces of an infected rat flea
Permanent rodent reservoir, Norwegian wharf rat most commonly infected
No evidence of spread from man to man
Urban disease
Occurring in middle aged groups, most frequently in men
Incubation period 6 to 14 days
Onset may be abrupt with a chill, headache or may be gradual
Temperature rises rapidly in steplike fashion to 102 to 105 degrees in from 3 to 5 days
Duration from 10 to 16 days—most frequently ending by crisis or rapid lysis on 14th day
The temperature is highest in the afternoon with morning remission of 2 to 3 degrees
The rash occurs on the 4th to the 6th day
It appears first on the lower part of the chest anteriorly and the abdomen and spreads to the back shoulders, inner surface of arms and upper portion of thighs
Rash consists of rose to dull red macules with ill-defined margins and lasts 2 to 9 days
Leukocyte count varies from leukopenia to milk leukocytosis
Positive Weil-Felix test 5th to 7th day
"Weil-Felix test may be negative one day and completely positive 24 hours later."
Convalescence is usually rapid

In table one an outline is presented contrasting the salient features of endemic typhus and the Eastern type of Rocky Mountain spotted fever. The main differences are as follows: A difference in distribution of the skin rash, the spotted fever rash usually beginning on the feet, legs, hands and arms and involving the face, palms and soles of the feet while the typhus rash begins on the thorax and trunk and rarely is present on the feet, legs, hands, forearms and face. The other differences are noted and will not be described further.

Endemic Typhus Fever in Georgia

Endemic typhus fever has existed in Georgia for many years. Gerhard in 1836 spoke of patients with typhus fever coming regularly to Philadelphia from the Southern coastal cities. It is possible, of course, that most of these cases were true epidemic typhus. Attention has been called to the fact that very little typhus fever occurred during the Civil War. So if foci of endemic typhus fever existed then they were quite localized. Attention has been called to the fact that Savannah has probably been the primary

†EASTERN TYPE OF SPOTTED FEVER

Endemic
Mortality 25 to 75 per cent
Occurs in late spring and throughout the summer
Cases in men predominate—seen frequently in children
Infection derived from bite of an infected tick
Incubation period 3 to 7 days
Onset is usually abrupt and symptoms more severe than in typhus
Fever similar to typhus but reaches higher levels
Does not display such marked daily remissions
Usually lasts 17 to 21 days
Rash occurs 2nd to 5th days
Occurs first on the wrist and ankles, then appears on the back and becomes generalized
Palms, soles and face usually involved
Rash consists of faint roseolus macules which grow more distinct from day to day and by the middle of the second week are definitely petechial or purpuric
The rash may persist for weeks
Immunologically distinct
Desquamation may occur
Hemorrhagic spots may occur in the mouth
Stupor and delirium more common than in endemic typhus. Spleen more frequently enlarged
Definite leukocytosis occurs
Weil-Felix test usually positive
Convalescence usually protracted.

focus of the disease in this state and that the disease has spread inland along the railroads and waterways. The disease has spread rather generally over the state and for the past three years progressively larger numbers of cases are being seen each year (Chart 2).

The disease occurs most frequently in the southern part of the state and as Dr. Sellers has shown its incidence is highest in southwest Georgia. In chart 3 a comparison is made between the number of cases seen in Savannah and Atlanta. The morbidity rate in Savannah is many times higher than in Atlanta when a comparison is made according to population. However, the disease seems to be increasing in Atlanta at about

the same rate as elsewhere over the state while in Savannah in 1933 there was an appreciable drop in the number of cases seen. In 1933, 637 cases of endemic typhus fever were reported in Georgia. Of this number 354 cases occurred in rural sections, 73 cases in cities of a population from 2,500 to 5,000 and 198 in cities with a population of 5,000 or above.

Endemic Typhus Fever (Brill's Disease)

Year	Cases	Deaths	Death Rate	Fatality Rate (Per Cent)
1929	57	1	0.03	1.8
1930	134	9	0.3	6.7
1931	127	7	0.2	5.7
1932	308	8	0.3	2.6
1933	627	23	0.8	3.7

Morbidity, mortality and fatality rates per 100,000 population in Georgia. (Chart 2).

Year	Fulton County (Atlanta)	Year	Chatham County (Savannah)
1929	3	1929	6
1930	8	1930	63
1931	14	1931	70
1932	20	1932	117
1933	51	1933	83

Cases of endemic typhus fever (Brill's Disease) reported in Atlanta and Savannah. (Chart 3).

Summary

1. A review of the records of 60 cases of endemic typhus fever occurring in the hospitals of Atlanta from 1925 to January 1, 1934, has been presented.
2. Attention has been called to the main points in the differential diagnosis between endemic typhus fever and Rocky Mountain spotted fever of the eastern type.
3. The increase in cases of endemic typhus fever reported in Georgia in the five year period from 1929 to 1934, inclusive, is shown.
4. A comparison of the incidence of endemic typhus fever in Atlanta and Savannah for the five year period, 1929 to 1934, inclusive, is shown.

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Discussion on Paper by Dr. Mark S. Dougherty, Jr.

DR. JAMES E. PAULLIN (Atlanta): In 1913, when typhus fever was first recognized in Georgia, interest was aroused in this disease because of its similarity to the so-called Brill's disease which had been described as occurring sporadically in New York City. In an effort to establish the identity of typhus fever in Georgia with the Old World form of typhus fever which was occurring at that time in Mexico, cross inoculation studies were undertaken. We were fortunate in obtaining three monkeys which we inoculated with blood from patients in the early stages of typhus fever. Two of the monkeys had definite febrile reaction from which they recovered. These monkeys were then sent to Mexico where they were again inoculated with blood from patients with severe Mexican typhus. The monkeys did not respond with a febrile reaction. This in a measure established the fact that the disease with which we were dealing was the same disease occurring in Mexico, so that the name of Brill's disease was discarded and it became known as typhus fever.

Since then typhus fever has occurred sporadically in various parts of this state and in the South. I am inclined to believe that some individuals are diagnosed as having typhus fever who probably have some other of the infectious diseases. The majority of patients' blood with typhus fever will give a positive response to the Weil-Felix reaction. This, as you know, is not a specific reaction at all but is a reaction which occurs in the blood of typhus fever patients more than in any other disease. There are certain types of dengue fever which may be confused with typhus.

DR. LAWRENCE LEE (Savannah): I want to say something in regard to Dr. Paullin's paper. I cannot agree with him entirely in his statement that some of the isolated cases throughout the State of undetermined fever are probably not endemic typhus, but dengue fever. Dengue fever in Savannah always occurs as an epidemic and is never endemic. When we have dengue fever, we have hundreds and hundreds of cases, not an occasional case. It is also a seasonal disease occurring only in the summer and fall, and is a mosquito-borne disease. The occasional cases of obscure fever which are so difficult to diagnose, and of which Dr. Paullin speaks, occur during any month in the year and are not seasonal.

DR. W. A. SELMAN (Atlanta): It was my good fortune to see the case of spotted fever referred to by Dr. Dougherty. That was in Douglas County. It was hard to know whether the patient did have some such fever or kidney colic. This man was in intense pain, and he did have an acute abdominal condition. We did not see fit to open his abdomen because we thought we recognized the disease by this peculiar rash, and the history of the way it occurred. This man had every link in the history of spotted fever. The rash was found on his body. He was a fox hunter, and he frequently followed the dogs through the woods, and his wife said that frequently he got

so exhausted that he would lie down in the woods and sleep during the rest of the night and come home the next morning. She found several ticks on his body that had filled themselves with blood, and it was about two weeks after that that he was taken with this disease.

The mental symptoms were so marked that we could not keep him in bed. When I saw him he was sitting on the edge of the bed, his abdomen rigid, with intense pain and semi-conscious. He would do some of the things you told him, but some he would not. If you tried to make him lie down, he would immediately get up. He was in semi-delirium, and went on to a mortality.

DR. T. F. SELLERS (Atlanta): I wish to discuss briefly certain features of the Weil-Felix test on which we are largely dependent in confirming the diagnosis of typhus fever. The test is an agglutination phenomenon, similar in principle to the Widal test for typhoid. In the latter test, however, we employ a suspension of the causative organism, namely, the typhoid bacillus. In the former, or the Weil-Felix test, we use as antigen an organism which apparently has no relationship to typhus fever, namely, a certain strain of bacillus proteus known as X19.

The Weil-Felix test will prove positive at some time after the first few days of fever in at least 95 per cent of typhus cases. Sometimes the reaction may be delayed until the tenth or twelfth day, or even until after defervescence. It is, therefore, important in clinically suspected typhus cases to reapply the test at intervals of three or four days.

Dr. Dougherty mentioned the fact that the titer of the reaction may rise suddenly. This is indeed true. One may obtain a negative reaction on the sixth day, for instance, and a strongly positive result twenty-four hours later.

Not every positive Weil-Felix test should be interpreted as diagnostic. As I have already stated, the antigen is not specific and at times in certain other acute febrile conditions a positive Weil-Felix test may be obtained. It has been noted by a number of observers that once the agglutinins for *B. proteus* X19 are produced by an attack of typhus they are thereafter subject to restimulation even to a high degree by subsequent acute infections in no way related to typhus. This is more or less characteristic of all agglutinins.

As applied to spotted fever, the Weil-Felix is not so reliable although a positive reaction is usually obtained. We obtained a strongly positive reaction in the case referred to by Dr. Selman.

I could discuss the application of the Weil-Felix test in considerable detail with special reference to its vagaries and limitations, but my time is too limited. Dr. Dougherty has given us some very valuable information, particularly with regard to the clinical manifestations of endemic typhus fever.

DR. D. L. SECKINGER (Atlanta): I should like

to say something about the epidemiology of this disease as it applies to the entire state.

In 1931, there were 157 cases reported to the State Department of Health; in 1932 there were 308 cases, and last year 625. The disease has been most common in Savannah; in 1932 the case rate in the City of Savannah was above 100 cases per 100,000 population. That was the highest in the State of Georgia. In 1933, there were eight counties in Southwest Georgia where the case rate was above 100 cases per 100,000 population.

The disease seems to have spread from Savannah into the more rural areas of the state, as Dr. Dougherty has mentioned. However, at Savannah typhus seems to be more or less constant at the present time. We should remember the fact that Savannah has had a typhus control program going on for some time, under the U. S. Public Health Service, and while the number of cases there stays more or less the same, in Atlanta, for instance, there was three times as much typhus last year as the year before; 16 cases in 1932 and 48 in 1933.

It seems to me that we may well consider what we might do about this disease in a preventive way. Is it possible to control this disease, and what measure should be taken or instituted for the control of typhus in this state? We may control typhus, we believe, in the same way as bubonic plague is controlled. At present we cannot control it by vaccine or sera, but we can control it by getting rid of rats.

The State Health Department, working with the U. S. Public Health Service, has just completed a rodent and ectoparasite survey of Atlanta, Savannah and Brunswick. Brunswick, for some reason, did not have a case of typhus last year, while Savannah and Atlanta led the state in the number of cases reported. What are the factors concerned here? I think they are fairly well brought out in this survey. We found that in Savannah 94.0 per cent of the rats caught were the Norway rat, or typhus rat. In Atlanta, 99.8 per cent were the Norway rat. In Brunswick there were only 40 per cent Norways. In Atlanta we also studied the fleas that caused typhus, and found that 96 per cent of the fleas on the rats were of the typhus-producing variety. It just happens that the same fleas that spread the bubonic plague spread typhus, and the same rat, the Norway rat, is concerned here. So then the same methods used for the control of bubonic plague may also be effective in the control of typhus.

In the City of Atlanta we attempted to establish foci from which the disease spreads, and on a very large spot map with the palm of my hand I can cover the place of occupation or residence of two-thirds of the cases of typhus that occurred in Atlanta last year. It is believed that the destruction of rats at foci of infection is practical and will do a great deal to lessen the incidence of typhus. If we can get in soon enough with the corrective measures in those areas in which the disease is spreading, I think we can control the disease without a great expenditure of money.

In April of this year there was less typhus than throughout the state in April of last year. I was told by some physicians in Southwest Georgia, where the disease was particularly common last year, that they are not having as many cases of typhus this year as last year. In this area last winter rats were poisoned in seventy counties by the U. S. Biological Survey, working in co-operation with the State Department of Health.

DR. R. W. FOWLER (Marietta): I have seen seven cases of Brill's disease in the last twelve months, but what I wanted to report was four cases in one family, one of which was a bad one. My home is in Marietta. The people went to visit in South Georgia and returned with a pet rabbit, which was apparently the source of infection. The father, the mother, a child seven years old, and the wife's brother had the disease—four cases in one family.

The most pronounced symptom in my experience has been nervousness. All of these patients are extremely nervous. All noises, and things on that order, bothered them so much.

DR. HERBERT S. ALDEN (Atlanta): Mr. President and Gentlemen: The paper and discussions have been so ably presented that there is very little left to say. However, I do want to mention a few things of diagnostic importance from a dermatological point of view.

(Slide) The skin eruption that occurs in typhus fever is not characteristic in its actual appearance. In other words, it is simply a red macule, very similar to the red spot seen in typhoid fever and many other fevers known as a "toxic" eruption. As you see it occurs in the center of the body. In Rocky Mountain spotted fever, since the two diseases are caused by similar bodies it is strange that the eruption should not be found in the same location on the body. The eruption in Rocky Mountain spotted fever is more hemorrhagic in character. In typhus fever the eruption is often so very mild that it sometimes escapes attention.

Its similarity to one other disease, pityriasis rosea, which we frequently see might be mentioned. In most of these cases, we do not observe the elevated temperature and illness, but occasionally we do see one with such symptoms. The eruption of pityriasis rosea rarely gets below the knees, and rarely above the neck.

Someone mentioned this morning that oftentimes a doctor was in a hurry and hardly more than glanced at the body. I think if we will hunt for dermatological signs in some cases that look like malaria or typhoid fever, oftentimes the skin eruptions will become apparent and your correct diagnosis will be made.

DR. MARK S. DOUGHERTY, JR. (Closing): I should like to thank the gentlemen for their discussion, and invite you all to see our exhibit, which is somewhat in detail. I suggest also that you see the exhibits of Dr. Seckinger and Dr. Sellers of the State Board, showing the very fine work they have done.

RECENT DEVELOPMENTS IN THE KNOWLEDGE OF ENDEMIC TYPHUS FEVER*†

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Typhus fever has not appeared in epidemic form in the United States since 1893, at which time an outbreak of over 400 cases occurred among residents of the poorer crowded tenement section of New York City. In every respect this epidemic was similar to those so common in Europe at that time and even today. This was undoubtedly old world epidemic typhus, louse borne, imported by immigrants.

A disease known as "tabardillo" has been existent among the Indians in Mexico since the time of the Spanish conquest of the sixteenth century. Tabardillo has been shown to be identical with European typhus by Anderson and Goldberger¹, Rickets and Wilder², et al. It is both endemic and epidemic. According to Parada and Varela³ there is evidence that typhus may have existed in the Western Hemisphere long before the coming of the Spaniards or even before the time of Columbus and that the destruction of the Toltec city of King Topilzin (1116 B.C.) was due to typhus.

It is, therefore, rather surprising that in spite of a heavy bombardment of immigration from the old world along the Atlantic coast and in spite of a direct exposure to the Southwest from Mexico, the United States has been remarkably free of epidemic typhus, except for minor outbreaks very sharply limited.

The existence of a modified form of typhus in this country was first suggested by Dr. Nathan Brill⁴ who, in 1910, summarized his observations of 221 cases, the first occurring in 1898, of a disease resembling typhus, but being less severe and having a

*Read before the Atlanta Clinical Society, Atlanta, March 28, 1934.

†The writer is indebted to Dr. Daniel L. Seckinger, Chief of Department of Epidemiology, State Department of Health, for much valuable data pertaining to the present status of endemic typhus in Georgia.

low mortality. He expressed doubt that he was dealing with true typhus, but in 1912 Anderson and Goldberger¹ demonstrated that Brill's disease and Mexican tabardillo were identical with European typhus, differing only in certain epidemiological features.

Interest in Brill's disease as it was then called rapidly spread and in the course of a few years cases were reported from numerous points along the Atlantic and Gulf Coasts. In 1913 Paullin² reported seven cases observed by him in Atlanta, the first occurring in 1910. Shortly after this, cases were recognized in Savannah and Augusta, and still later in Montgomery, Mobile and Jacksonville and at several points in Texas. It soon became apparent that endemic typhus or Brill's disease had probably been existent in this country for many years.

During the past decade the introduction of the Weil-Felix test, which will be described later, has greatly facilitated more accurate diagnosis of typhus and many cases incorrectly diagnosed as typhoid fever are being identified through the aid of the laboratory.

Long after Brill's disease was definitely identified as endemic typhus, the mystery of its manner and mode of transmission and its peculiar lack of communicability from man to man remained unsolved. The epidemiology of old world typhus was well established by the time Brill made his first report. This disease occurs chiefly among the lower strata of society and is coincident with filth and vermin. The body louse is the principal insect vector, in the absence of which the disease ceases to exist.

Brill's disease or endemic typhus, on the other hand, is no respecter of social status or personal hygiene. Lice are only very rarely found on the bodies or about the premises of its victims. It occurs at all seasons of the year, but more frequently in the summer and fall months. It is not communicable to other members of the household or to bedside attendants, hence is never epidemic.

A careful epidemiological study of Maxcy³ in 1928 revealed that most of the cases were people engaged in trades such as clerks, proprietors, salesmen and grocers. A large

percentage were engaged in handling food stuffs or worked in warehouses and establishments where food and feed stuffs were handled, and where rats consequently were abundant. This observation led Maxcy to suggest that rats might have some part to play and that some ectoparasite of the rat was the insect vector.

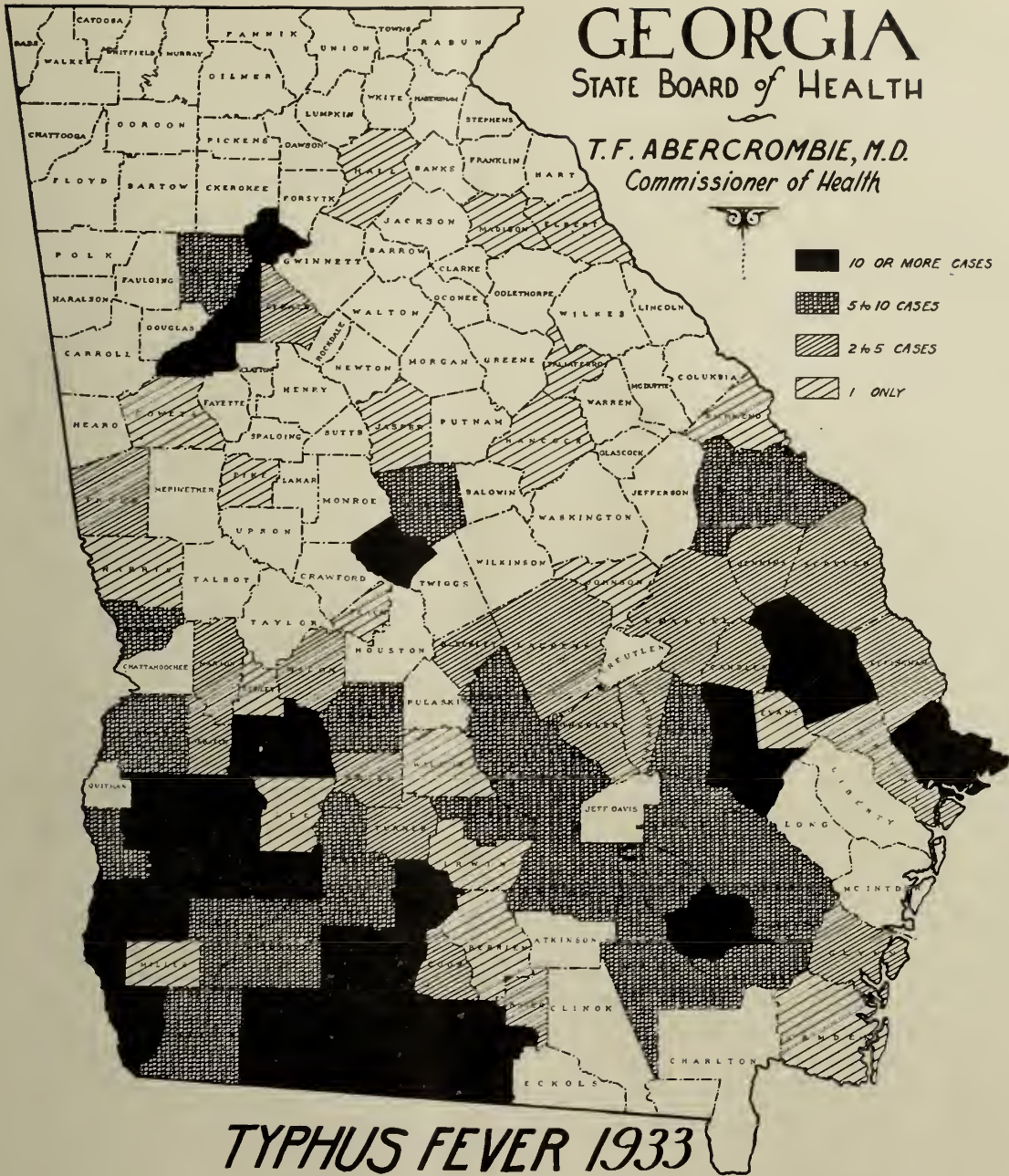
The brilliant investigations made by Rumreich, Dyer and Badger⁴ of the National Institute of Health in 1930-31 soon proved beyond question that Maxcy was on the right trail. They found the virus of typhus in rats caught in buildings where human cases were occurring. They also found it in fleas removed from these rats.

In the light of our most recently acquired knowledge, we can now understand why old world or European typhus is epidemic because it is communicated directly from man to man through the intermediary of the body louse, a parasite peculiar to man.

On the other hand, we now understand why Brill's disease is endemic, in that it is not communicated from man to man, but from rat to man by the rat flea, the rat being the perpetual animal reservoir. So long as this is the only means of transmission, the disease will probably never become epidemic.

Etiology—The causative organism of both old and new world typhus is now considered to be the same. It is known as *Rickettsia prowazeki*. These Rickettsia organisms are most unusual in many respects. While they are still considered as viruses, they apparently occupy an intermediate position, possessing certain characters common to both bacteria and viruses. They are visible microscopically, appearing as short rods or coccoid bodies, hence bacteria-like. They resist all attempts at artificial cultivation and are entirely dependent on living tissue for development, hence virus-like.

According to Mooser⁵, "the study of the behavior of this germ (*Rickettsia prowazeki*) reveals such a close adaptation to the life of certain types of cells in the invertebrates as well as in the vertebrates that to understand its mode of intracellular reproduction will mean shedding light not only on the



intricate mechanism of the intracellular metabolism in general, but also on the specific metabolism of certain types of cells." *Rickettsia prowazekii* shows specific affinity for endothelial cells of mammals, particularly in the endothelial lining of blood vessels. In invertebrates—eg. fleas and lice, it is specifically limited to the epithelial cell lining of the stomach. It is most interesting to note, as pointed out by Mooser⁸, "that the endothelial cells of the blood vessels and the cells of the stomach of insects have an analogous

function; they are assimilating cells having to do with the selection from blood substances necessary to their organism, transforming and adapting them to their own needs." In the mammal the source of blood is endogenous, in the insect it is exogenous. In mammals *Rickettsia* bodies can easily be found in the endothelial lining of blood vessels, peritoneum and the peritoneal lamina of the tunica vaginalis. In fleas and lice only in the epitrophic layer of the stomach proper can these organisms be found.

The nearest approach to artificial cultivation of Rickettsias has been accomplished by means of the living tissue culture technique of Carrell and it was found that the presence of blood plasma and fresh serum is essential.

Mode of Transmission

Regarding the mode of transmission of the infection from rat to man, the following facts have been established.

1. The Norwegian or wharf rat, *Mus norvegicus*, of a certainty, and potentially other closely related rodents, are naturally susceptible to typhus infection. In the rat the disease is exceedingly mild, producing little or no outward manifestations. The rat invariably recovers and is, thereafter, immune to reinfection.

2. Certain fleas, principally *Xenopsylla cheopis* and to a lesser extent *Ceratophyllus faciatu*s become infected by feeding on the blood of the infected rat. The virus multiplies enormously in the epithelial cells lining the stomach of the flea and passes out with the feces. Other ectoparasites common to rats are susceptible to experimental infection, but these have never been found infected in nature.

3. The flea once infected remains so for the rest of its life which does not exceed three or four months. The virus dies with the flea and is not passed on to its progeny.

4. Man does not become infected by direct inoculation by the infected flea in the act of biting, but by the contamination of the wound or other abrasions with the feces of the flea.

EPIDEMIOLOGY

Geographic Distribution—Endemic typhus in the United States is essentially an urban disease and is more frequent in seaports. It has a tendency to spread inland along routes of communication. In certain areas, particularly in the peanut growing section of Southwest Georgia, the infection has become rural, many cases originating on farms where peanuts are harvested and stored.

Seasonal Incidence—While cases occur at all times of the year, the greatest incidence is during the summer and fall months. Inci-

dentally this coincides with the breeding season of the rat flea.

Occupation—The disease is more often contracted at places of occupation than at places of residence. Persons who are employed in warehouses, restaurants, groceries and establishments handling food stuffs are particularly subject to infection. This is due to the fact that the rat population is greatest in such places.

Age and Sex—The disease occurs more frequently in young adults, with preference for males. Strange to say, endemic typhus is relatively rare in the negro.

Symptomatology—The incubation period of endemic typhus varies from six to fourteen days. The onset is abrupt in most instances, though gradual in some. Chilliness, headaches, anorexia and prostration usually mark the beginning of fever. Headache is especially severe and is usually frontal.

The Temperature steps up rather rapidly to 103-105 degrees F., reaching its peak by the end of the first week and remaining high until it begins to terminate abruptly by rapid lysis about the fourteenth day. There are morning remissions of from one to three degrees. As the fever mounts, the patient is apt to become mentally depressed and apathetic, or may even be irrational and delirious at times. He complains not only of severe headache, but of backache and joint pains. The spleen is often slightly enlarged. The pulse is not greatly increased in proportion to the temperature. The white cell count of the blood is normal, or there may be a leukopenia. Constipation is a very common symptom. The face is flushed, the tongue dry and coated. There is usually a mild conjunctivitis.

About the fifth day the rash appears, first on the chest and upper abdomen and soon extends to the shoulders, medial surface of upper arms and at times to the back and lower extremities. It is almost never seen on the face and only rarely on the palms and soles. The distribution of the rash is one of the most important items of differential diagnosis, particularly since it is the chief point of difference between typhus and Rocky Mountain spotted fever, which will be dis-

cussed later. The rash consists of macules of irregular size and shape, averaging two to three mm. in diameter with poorly defined margins, and often resemble the rose spots of typhoid. They fade but do not completely disappear on pressure. Some are bright red as rose spots, others a dusky red. The rash is more prominent during the afternoon when the fever is highest. In severe cases definite petechiae may develop. The rash lasts from two to nine days and usually disappears completely by the time the fever breaks. In the negro the rash is usually not discernible.

After defervescence begins, recovery is rapid and sequellae are rare.

Treatment—This is entirely symptomatic. It is recommended that the temperature be controlled by baths rather than antipyretics and the constipation by enemata rather than by drug laxatives. The diet should be similar to that of typhoid, bland and of increased caloric value. An ice cap is useful to relieve the headache. Sedatives may be used when indicated. Absolute rest in bed is essential.

The Mortality is low, averaging around 2 per cent. In 1933 the mortality in Georgia was 3.6 per cent. A fatal outcome is very rare in young people. Most of the deaths are due to pre-existent pathologic processes, or occasionally to pneumonia.

Pathology—The virus of typhus attacks endothelial tissue almost exclusively. Hence the endothelium of blood vessels and of the peritoneum are involved. The process is degenerative with proliferation of cells lining the vessels. These lesions produced by endemic typhus have been carefully studied in experimentally infected animals, such as guinea pigs and rats. In addition to the vascular lesions in the guinea pig, a rather characteristic scrotal involvement occurs and Rickettsia bodies are found in great abundance in the endothelial cells of the peritoneal lamina of the tunica vaginalis. Also in the guinea pig small nodules composed of aggregation of glia cells are found in the brain, being most abundant in the pons and medulla. These nodules have been found in man in epidemic typhus.

Deaths due to endemic typhus primarily

are so very rare that there has been little or no opportunity to study the histopathology in man.

Diagnosis—The usual sudden onset, severe prostration, frontal headaches and rapid rise in temperature, appearance of a macular rash over the upper torso on the fifth day—this syndrome is sufficiently suggestive to warrant a tentative diagnosis. About the seventh day the blood may show a positive Weil-Felix test, although this may be delayed until the ninth or tenth day. The nature and application of the Weil-Felix test will be discussed later.

Atypical cases of endemic typhus may be confused with typhoid fever, especially since the rash of both diseases is somewhat similar. In typhoid, however, the onset is more gradual and this is also true of the temperature rise. Often recourse must be had to the laboratory to decide the correct diagnosis.

Chiefly because of its rarity, and also because of the similarity of onset, Rocky Mountain spotted fever is most apt to be confused with typhus.

Rock Mountain Spotted Fever was until very recently thought to be limited geographically to certain sections of the west. Here the disease is both endemic and epidemic at times, is very severe and is highly fatal often to the extent of 50 to 75 per cent. It is also a Rickettsia infection with the wood tick, *Dermacentor andersonii*, acting as the insect vector. Some kind of rodent is presumed to be the animal reservoir, but none has yet been proven. In 1931, Rumreich demonstrated that certain cases of what was supposed to be typhus fever occurring in the Appalachian Mountains were in reality spotted fever. In the same year, Badger confirmed this by animal cross-immunity experiments. The eastern type of spotted fever is being found sporadically in the interior of all the middle and south Atlantic states and also Kentucky, Tennessee and Alabama. A Georgia case was recently reported in Douglas County, near Atlanta.

The onset of spotted fever is quite similar to that of typhus, though usually more abrupt and severe. The temperature is higher. The rash appears earlier, the third or fourth

day. It is first seen on the wrists and ankles, then the back and finally becomes generalized, including the face. Very much like the typhus rash at first, it becomes more distinct and by the second week the lesions are petechial, and later purpuric. It persists throughout the course of the disease, which often lasts from three to four weeks. In most cases the Weil-Felix test is positive after the second week, though it may remain negative throughout. The mortality is about 25 per cent. The insect vector of Eastern spotted fever is the dog tick, *Dermacentor variabilis*. The animal reservoir is not known. Usually a history of tick bite or exposure to ticks is obtainable.

The distribution of the rash, the more severe and prolonged course of illness, the history of exposure to ticks, these are the principal differential points distinguishing spotted fever from typhus. While few cases have been recognized so far, it is probable that spotted fever occurs more frequently than reports indicate. Physicians should, therefore, be on the lookout for it.

Weil-Felix Reaction

In 1915 Weil and Felix⁹ isolated from the urine of typhus fever patients certain strains of *Bacillus proteus* (*vulgaris*) which were agglutinable by the sera of typhus patients. One of these, which they called X19, was more susceptible to agglutination than all others. Friedberger thought these strains to be the causative organism of typhus, but later Landsteiner, Housman¹⁰ et al, failed to confirm this.

The Weil-Felix test is not specific, in that the antigen is not prepared from the causative organism. However, it is positive in the vast majority of cases of both epidemic and endemic typhus and to a lesser extent in spotted fever. The operation of the test as employed in our laboratory is as follows: The antigen is prepared by suspending in normal saline a 24 to 48 hour agar slant growth of *B. proteus* X19. The suspension should be thin but decidedly opalescent. It is prepared sterily and no preservative is added.

Varying dilutions of the suspected patient's serum are placed in 0.5 c.c. quantities in small clear test tubes. To these are added

equal amounts of antigen and the tubes are well shaken. They are then placed in a 37°C. water bath for four hours, after which they are transferred to the ice box over night, and read the next morning.

Complete sedimentation of the bacilli in all tubes leaving a clear supernatant fluid constitutes a strongly positive reaction. In our laboratory four dilutions, 1:40, 1:80, 1:160 and 1:320 are employed routinely. At times much higher dilutions are used. It is not unusual to obtain complete sedimentation as high as 1:5000 or higher. Incomplete or no sedimentation at dilutions lower than 1:160 should be regarded with suspicion. Such may mean that at the time the blood specimen was drawn the formation of typhus antibodies had just begun. A second specimen taken two or three days later should be tested. If from this a much higher titre is obtained, a tentative diagnosis of typhus fever is warranted, provided the clinical observations coincide. It should be remembered, however, that while the Weil-Felix test is positive in most cases of typhus, it is not specific and not every positive test is diagnostic. Certain febrile diseases other than typhus may be attended by a positive Weil-Felix test, at times strongly positive. Usually in such cases the titre is low and does not show as much tendency to rise when later specimens are tested. Frequently this happens in typhoid and occasionally in undulant fever and tularemia. Just as frequently the reverse may occur and one may note a rise in the agglutination titre of the Widal test for typhoid in cases of typhus fever. Therefore, as in the case of most laboratory diagnostic procedures, there should be some correlation between clinical and laboratory findings.

The physician who seeks laboratory aid in the diagnosis of typhus fever should keep in mind the following: 1. The Weil-Felix test rarely begins to register any degree of reaction before the fifth day of illness and frequently not before the seventh or eighth day. Once begun the titre rises rapidly. It may be negative one day and completely positive twenty-four hours later. 2. A low titre reaction obtained from the first specimen al-

ways warrants the testing of a second or even third specimen. 3. Other febrile diseases not related in any way to typhus may produce weakly positive and at times even strongly positive Weil-Felix tests.

The Weil-Felix test was first employed in our laboratory in 1924, during which year two positive tests were obtained. Its use gradually increased and in 1927 there were 57 positives, 244 in 1930 and 514 in 1933. During a ten year period the laboratory has aided in the diagnosis of more than 1,400 cases of endemic typhus.

Endemic Typhus in Georgia

How long endemic typhus has existed in Georgia would be impossible to say. No doubt its advent far antedates its first recognition in 1910. As has already been stated, it seems to start in the coastal cities and spread inland. On this basis we would infer that Savannah is the starting point. This is borne out by the fact that until quite recently cases were rather sporadic over the state, while in Savannah its incidence has been well above an average of 50 to 75 cases each year for the past ten or fifteen years.

During the past three or four years the spread inland has been much more rapid and in 1933 the area of greatest incidence was in Southwest Georgia. Of a total of 627 cases reported in 1933 in the entire state, 296, or 47.2 per cent, occurred in the southwest quadrant, involving about thirty counties. In this area peanuts are grown on a large scale. This has attracted rats which have multiplied so greatly as to become a serious economic pest. With the rats came typhus which no longer limits itself to towns and cities, but is being found in increasing frequency in purely rural areas.

At the present time endemic typhus threatens to become a serious public health problem in Georgia, particularly in the southern half of the state. Along with the rapidly increasing morbidity, the mortality rate has also risen from less than 2 per cent in 1931 to 4 per cent in 1933.

Control

The project of rat eradication, financed by the Civil Works Administration and oper-

ated through the United States Biological Survey and the United States Public Health Service, in cooperation with the State Health Department, is most timely. Unfortunately this project is about to be abandoned along with all other CWA activities, just at the time when it is beginning to operate effectively. Great numbers of rats have been destroyed by trapping and poisoning in the peanut growing area and it is believed that as a result the rat population has been greatly reduced. It remains to be seen just what effect this will have on the incidence of typhus during 1934 in the area.

Any worthwhile control measures hinge upon the elimination of the animal reservoir, which is the big brown Norwegian or wharf rat. But this is easier said than done. So firmly entrenched is this pest that its complete eradication is practically impossible. However, measures aimed at the reduction of the rat population, such as wholesale poisoning with Squills, or trapping or more permanently by rat proof construction or remodeling of all buildings will have some good effect, depending on the thoroughness with which these measures are carried out. Perhaps the most practical procedure is intensive warfare on rats in the limited areas where the human cases are occurring; in other words, in the foci of infection. This would tend to lessen the number of infected rats and thereby lessen the chances of human infection.

Summary

A disease which, twenty years ago, was considered to be a curiosity and a novelty in this country is now assuming the proportions of a serious public health menace, particularly in the South. This disease is endemic or murine typhus fever. It is none other than a modified form of European typhus which has long been one of the major pestilences of the old world. The recent discovery of a rodent reservoir of endemic typhus and of the mechanism of its transmission from rodent to man through the intermediary of rat fleas constitutes a brilliant achievement for which the United States Public Health Service is entitled to full credit. With this new knowledge as a

weapon, the control of this new menace is now possible.

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BREAST LESIONS*

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The challenge of a cancer conscious laity can only be successfully met by an alert profession—no place is left in modern medicine for a doctor who, without even the most superficial examination, dismisses a patient who has consulted him about some lump or abnormal discharge and who fears a cancer, with the admonition to “forget about it.” The average layman is too intelligent to do such a thing and will continue to consult doctor after doctor until a thorough examination is obtained. True it is that, because of the expense involved, proper treatment cannot and will not be obtained by all such patients until one of two things happens—either the economic status of the average individual must be improved or institutional treatment be provided for those unable to pay for complete and adequate services either by endowments or by some form of socialized medicine. They are entitled to the proper advice whether they can follow it or not.

As we now see more cancers than we did formerly, the incidence of cancer must be increasing, or more cases are being properly diagnosed. In a woman one of the most frequent sites for a carcinoma is in the breast—an organ or appendage accessible to examination not only by the doctor but also by the patient. They know the frequency with

which it is involved. They are constantly looking for trouble, and at the least deviation from the normal are prone to become alarmed. Consideration of lesions in the breast should always present an interesting subject for discussion at such a meeting as this.

Early Signs and Symptoms

What are the first signs and symptoms which are most frequently noticed? Unquestionably pain is the most frequent symptom and the presence of a lump the most frequent first sign. Among other common causes for the mammary patient to consult her doctor might be listed: discharge from nipple; ulceration about nipple; difference in size of the two breasts. In an analysis of one thousand cancer of the breast cases, Lee found that the first symptom in 74 per cent of them was a lump in the breast; in 6.6 per cent pain; in 5.3 per cent enlargement without a localized tumor.

Pain—more frequently occurring in young individuals—is usually to be regarded as a fortunate symptom as it rarely if ever is the most prominent early symptom in malignancy. In later stages it is, of course, a common complaint. In early cases it worries the patient much more than the doctor. Its possible etiological factors are legion, varying from the frequent antemenstrual pain to that of the acute abscess. Fortunate indeed is the woman (or man) who has her attention first attracted to a pathological change in the breast by pain! She is to be congratulated, but relief for her is often more difficult of attainment than in a more serious condition.

Lumps in the breast portend more serious conditions. The seriousness of the condition naturally varies greatly according to the size, location, character, number and duration of the lumps. Any lump near the nipple is more difficult to remove without damage to the ducts than one near the periphery of the gland. If stagnation is thus produced a fertile field in which cancers may arise is left, as was shown by Bagg and Adair in a series of experiments with mice in which the ducts of the breasts on one side of mice were ligated and the animal allowed to continued to breed.

*Read before the Tenth District Medical Society, Washington, August 8, 1934.



FIG. 1.
Steiner Clinic case No. 4595. Multiple sero-cystic sarcoma (Brodie's). This is a benign lesion. Simple mastectomy July 9, 1929. No recurrence.

Malignancies developed in a larger percentage of the breasts having the ducts blocked. Ewing believes if we can do away with stagnation in the breast we will have gone a good distance forward in reducing, if not almost preventing, the occurrence of mammary carcinomas.

The danger from a lump frequently varies inversely with its size. A small lesion may be malignant while an enormous one be benign—as for example, we see in the benign hypertrophies, the bulky fibroadenomas, and in the multiple sero-cystic sarcomas (Brodies).

The character of the lump is naturally its most important determining factor—if hard, irregular, fixed to the deep structures or the overlying skin, and not tender, one would think more of a malignant lesion than of a benign one.

A solitary nodule or lump occurring in a breast should always be investigated. The most innocent appearing ones may sometimes prove fatal. Multiplicity of lesions speaks benignancy—for, as in other organs and locations, malignancies rarely occur simultaneously in more than one location.

History of a long duration with little or no change, gives reassurance from the outset. No malignant lump will remain over a period of years without either increasing in size or spreading to regional lymph nodes or metastasizing to distant parts of the body. Hence

we feel safer about a lump if it has existed for a long time, but we must not be lulled into too great a sense of security for a benign lesion not infrequently undergoes malignant change. This is but another reason why all solitary lumps, even benign ones, should be removed.

Discharges from the nipple are not uncommon. Following lactation milk can sometimes be expressed for months or even years. From the nulliparous nipple a straw colored discharge is frequently noted and usually is of slight significance. A sanguineous discharge, however, is much more serious—not always indicative of a malignancy, but always a potential one until proven otherwise. By far the most common benign cause of a bloody discharge from the nipple is an intracanalicular papilloma. The danger of leaving such a case alone is that these papillomata may become malignant. Such a discharge which does not yield to treatment is sufficient justification for surgical intervention.

Examination

The manner in which a breast is examined is most important. Extreme gentleness should be an infallible rule—not only to spare the patient any undue suffering but also to avoid the possibility of liberating some cancer cells into the lymph or blood channels, thus producing metastases. A systematic examination should be made. First in the upright position and then when the patient is prone. Each person will have his own method in which he examines a breast, but there should be a definite system or plan to it so that no part will be overlooked.

Personally, I like to start the examination with the patient in the sitting posture, noting by inspection, first the relative size and position of the two breasts; the size, shape, and position of each nipple; whether or not any "lumps" or masses are visible, and if so, if they produce a bulging or retraction; the supraclavicular spaces on each side. Then the patient is asked to alternately raise and lower her arms slowly, finally bringing them to rest with the hands on her head. Many lesions can be diagnosed by this procedure alone, those in the lower portion if there is a slight dimpling and retraction of the skin



FIG. 2.

Steiner Clinic Case No. 5814. Note retraction of skin in lower inner quadrant of the right breast. This was not noticeable until hands were elevated above head. C. I. M. 13. Radical mastectomy April 17, 1930. Pre-operative and post-operative x-ray. Died September 22, 1934. Multiple pulmonary and bone metastases.

when the hands are raised above the head which is not otherwise visible.

While the hands are on her head palpation is begun, using gentle pressure over the various areas of the breast, to see if any mass or masses are present. The breast is still further elevated by exerting pressure under the pendulous portions to see if any areas of lagging skin are noted.

The arms are then lowered and placed on the hips, with palms in and thumbs forward. In this position it is easiest to detect any possible axillary nodes. Beginning at the apex of each axilla, and moving the fingers downward and forward with a slight rolling motion one examines carefully for any possible enlarged nodes, and note their consistency, whether or not they are fixed, their size, number, location and whether or not they are tender.

The patient's hands are then placed on the knees and the supraclavicular spaces carefully palpated. If any lumps or suspicious places have been located in the breast they are again examined with the hands in this position. It is frequently helpful to now go behind the patient and examine the supraclavicular spaces and axilla from behind. Occasionally one will discover an enlarged node in this manner that has been overlooked from the front.

No examination of the breast should be considered complete until it has been made with the patient in the prone position. The

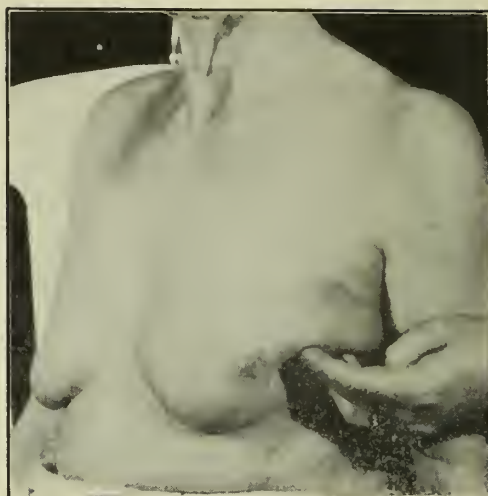


FIG. 3.

Steiner Clinic case No. 9081. C. I. M. 26. Note "lagging" of skin when pressure is exerted under the lump. This is usually indicative of a malignancy.

breast is then not under any tension, and the underlying muscles are thoroughly relaxed. Following a careful inspection, during which the position of either the patient or examiner is changed to get the different lights and shadows, palpation of each breast is again gently made, using the flat hand and lightly rolling the breast between the hand and the chest wall.

The patient is now placed in a dark room and, after allowing sufficient time for the eyes to become accustomed to the dark, each breast is transilluminated. Frankly, transillumination has been rather disappointing in about half of the cases. By it one can usually differentiate between a solid and cystic tumor. Mastitis produces a diffuse shadow. Intracanicular papillomata give the most satisfactory results from transillumination. Because of their blood content they cast a very dark shadow, and those too small to have been detected by palpation can sometimes be located and thus a breast be conserved which might otherwise have to be sacrificed. It is for this reason that no effort has thus far been made to obtain any secretion from the nipple—if there has been any history of a bloody discharge, the breast should by all means be transilluminated before the ducts have been emptied. This concludes the routine examination.

If there is any question of malignancy a stereo-scopic x-ray of the chest should be

made as well as x-rays of any bones or joints where there has been a history of pain or tenderness. These are made to detect any distant metastases. I have had very little experience with x-ray examinations of the breast itself, so don't feel competent to pass upon its value. The fact that I do not use it shows I haven't much confidence in its value.

Differential Diagnosis

A careful history and physical examination having now been completed, one must make his diagnosis, the differentiation in which can never be too positively determined, for often it is impossible to be certain of the diagnosis until a specimen has been removed, and even then it may be a week or more before the pathologist can make a positive diagnosis. Many, many factors enter into the making of a differential diagnosis of a breast lesion, and each of these must be considered, and its relative value weighed—ever remembering that there are exceptions in each case.

The first narrowing of the diagnostic lines is to determine as far as possible whether the lesion is an inflammatory process or neoplastic. If inflammatory, the treatment is naturally very different from that of a neoplasm. The prognosis is usually better, and the treatment rarely so radical. Off hand, it might seem ridiculous to say that an inflammatory process in a breast could ever be confused with a carcinoma, but I have seen many cases in which eight, ten or more good doctors had been unable to agree on the diagnosis; and the numerous mistakes I have made lead me to feel that others may have had the same experience.

The second round in the tournament of diagnosis, to use the vernacular of the golf course, in the first flight, is between the acute and chronic lesions. Having separated the inflammatory processes, it is rarely difficult to tell the acute from the chronic. In the former group fall the abscesses, either during lactation or following trauma. In the latter are tuberculous, syphilitic and fungoid infections. All of these are fairly infrequent, but must ever be borne in mind. The multiple sinuses of the tubercular ones are diagnostic.

In spite of their rarity, I think the luetic



FIG. 4.

Steiner Clinic case No. 9727. Lesion in lactating breast sent in as a carcinoma. Note "pigskin" appearance. It was hard. Treated as, and proved to be inflammatory.

infections should be given a special paragraph. One may encounter either a gumma or a primary lesion. In nearly fifteen thousand cases seen at the Steiner Clinic, a large portion of which are breast cases, I don't believe there has been but one in which a gumma was fairly definitely and accurately diagnosed—in that it improved under anti-luetic treatment—and even so, it may have been behind the breast pushing it forward.

A still more unusual condition is a chancre of the nipple—a private case is the only one I have ever heard of—and had this ulcer of the nipple not been typically "punched out," and not been in a young girl, its refusal to heal might have caused the needless sacrifice of a breast under the mistaken idea that it was a Paget's disease. Even so, the circumstances were such that a definite diagnosis was not made until the secondary rash appeared—a young girl of a most refined family whose father had committed suicide one week previously; very nervous and fastidious; a Keidel tube in which the vacuum was imperfect; who objected to a second needle puncture, etc. It was only when the rash appeared and after much tactful and delicate questioning that she admitted a boy friend who had a sore on his lip which persisted unusually long and who said he was taking "blood treatments," had kissed her nipple. Wassermann and Kahn reactions in the blood were then strongly positive. The ulceration healed promptly

under anti-luetic treatment, and blood reactions became and have remained negative.

In the lower bracket the benign lesions must be separated from the malignant. This can be done with fair accuracy in perhaps 75 per cent of the cases. No matter how positive the diagnosis may be, nor how obvious, the possibility of a malignancy must always be considered, and no treatment, especially surgical, instituted unless one is prepared to take such radical steps as are required should biopsy disprove a benign diagnosis. The patient should be advised that what starts as a very minor procedure may have to be converted into that of a radical mastectomy. If malignant, the treatment instituted will vary with the type of growth, extent, location, condition of patient, etc.

Many factors enter into this process of differentiation. Age of the patient is perhaps the first, and one of the most important. As previously stated, there will be exceptions to all these dicta, but as a general rule we consider the "cancer age" as being those past 35 years of age—but surely one doesn't interpret this as meaning that a lady 34 years 364 days old would have a benign lesion, while two days later it would be considered as malignant. A dividing point must be chosen, so arbitrarily we choose 35—and all those lesions occurring in persons under 35 are considered as benign until proven otherwise and for those over 35, the reverse is their lot! No age is immune. Children are born with cancer and octogenarians have it.

A careful and complete history is most useful—inflammatory lesions most frequently are seen in the young breast, generally with some etiological factor discoverable. Either the breast is lactating, or there is a "crack" about the nipple, or there has been an injury, and hematoma, etc. If it has been present for a period of years, with no particular change in size or shape, it must surely be benign. However, as stated above, a benign lesion may exist for a long time and finally become malignant.

Are any of the signs of inflammation present? Redness? Local increased temperature? Tenderness? Fluctuation? Leukocytosis? Systemic rise in temperature? With the exception of the increased number of white

cells and possibly also tenderness, any one or all of these signs might be found in conjunction with a malignancy, especially if one is dealing with the so-called inflammatory type of cancer, in which the rapidly multiplying cells cause a redness of the overlying skin and localized increase in the surface temperature. As a rule, however, these signs indicate an inflammatory lesion rather than a neoplasm.

There is one point I have never seen mentioned in connection with the diagnosis of a breast lesion, which, in my hands, has more than once enabled me to say that an otherwise innocent appearing lesion was malignant. That is, the weight of the tumor. I have observed that malignant tumors appear to be heavier than benign ones of like size. This has never been proven nor disproven as far as I know. It would seem logical that a malignant tumor, being more cellular, and having a tendency to "shrink," would be of greater density than a benign one. Some day, it is to be hoped, someone will devise scales for determining the weight of a breast. These weights would vary with the individual, but should Mrs. X's right breast double in weight in a year while the left has only shown a 50 per cent increase, one would suspect a tumor in the right breast. Women would then have to be educated to not only have a periodic examination of the breast, but also a determination of its normal weight.

Perhaps the most valuable sign is that of a dimpling or attachment of the overlying skin. In the late stages, this gives the appearance of "pig skin," and can't possibly be overlooked, but the stage in which it may prove to be really valuable is when it is hard to detect. This is why the patient has been asked to alternately raise and lower the arms. Also, why the breast is examined from different angles to see if motion of the breast gives an appearance of lagging of the skin over the tumor when the shadows fall in another direction. Inflammatory lesions with their resulting oedema of the overlying tissues, may be responsible for the pig skin appearance.

[†]This is the first section of a paper on "Breast Lesions." The second and concluding section will be published in the next issue of the Journal.

MEDICAL ASPECTS OF SOME ACUTE ABDOMINAL CONDITIONS*

S. C. KETCHIN, M.D.

Louisville

Every paper that I have read lately has dealt with some aspect of acute abdominal conditions. I confess that I am interested very much in this subject for a condition confronts us that in many aspects is appalling and since it is capable of improvement challenges me and should challenge every one of you.

In listening to this paper today you need not expect to hear anything new. It is presented with only one idea in view, namely that we may do our bit toward remedying a condition that is fast becoming a scandal in medicine and surgery. I speak of the excessively high mortality rate in the acute abdominal conditions. It would seem that a fact so plain, so repeatedly demonstrated as being true, would not be so hard for the profession to learn, namely that acute abdominal conditions are first, last and all the time surgical and not medical. That this lesson is not well grounded in the profession as a whole is clearly shown by the statistics from all parts of the United States. It is true that often statistics do not express the whole truth but if you will glance at the charts that I have placed here which are copied from a bulletin furnished me by Dr. Louis I. Dublin of the Metropolitan Life Insurance Company you will see a percentage of deaths from acute appendicitis that should make us pause and think and examine very closely our skirts for the dirt of ignorance and neglect. I do not say that this rate is altogether to be laid to the medical profession, indeed it is not. The profession must, however, bear part of the blame even though that blame be indirect and due to a failure to properly educate the public in respect to the acute conditions of the abdomen.

It is thought by physicians and oftentimes openly thought that the subject of acute appendicitis is too much talked and written about; that it has been milked dry. When it is known however that for the past few

years between 17 and 20 thousands of persons have died each year from this cause it would seem that it is just about time that the talk should begin. These figures are the more distressing when it is realized that a greater part of the deaths could have been prevented had proper treatment been instituted.

It will prove interesting and instructive to quickly give a resume of the death rates from the year 1900 up to and including 1931, which is the last year for which figures could be obtained. In 1900 the death rate was 9.7 per 100,000. In 1910 the rate per 100,000 was 13.3; for 1911, 13.7, and gradually increasing up to 1920 when the rate was 15.7 and the number of deaths 11,321; in 1921 the deaths numbered 12,356; in 1922, 12,418; in 1923, 13,132; in 1924, 13,316; in 1925, 13,873; in 1926, 14,030; in 1927, 14,258; in 1928, 14,821, and the rate jumped to 17.7 in 1929. In 1930 the figure of 18.0 was reached and the total deaths were 17,687. In 1931 there was a slight improvement, the rate dropping to 17.4 per 100,000. These figures are startling and at once the question arises why the high mortality and also why the marked increase in rates since 1900. I think there is not one single answer but a number of answers and it is to these answers that I want to direct your attention for a little while.

In the year 1900 the death rate from appendicitis was only 9.7 and in this year and for several years preceding the medical journals were filled with articles on the subject; the pros and cons of when to operate, the methods of operative procedure, the Oschner method vs McBurney's point, Jno. B. Murphy's dicta, etc., etc. In other words, the profession was appendicitis conscious and this was mirrored in the minds of their patients. Up to the past two years, when the doctors of the country had such a rude awakening when confronted with the mortality tables, papers and discussions were lacking and, as was said, this was not true 30 years ago. "Familiarity breeds contempt," A danger ever present is in time ignored for example, as was shown by the men in the trenches in many instances. The profession as a whole rather held that the last word had been spoken concerning appendicitis and

*Read before the Medical Association of Georgia, Augusta, May 10, 1934.

that there was nothing more to be learned. The truth was that many, far too many, had not learned the first principle of this disease, the principle laid down by the immortal Osler many years ago. "Appendicitis first, last and all the time is a surgical disease, there is no medical treatment." Were this dictum engraved on the minds of every physician in the United States I am persuaded that thousands of lives could be saved every year. May I quote a statement of Dr. H. H. Kerr, of Washington, D. C., made not long ago? "The complacency that resulted from learning so much and knowing so much about appendicitis was disturbed recently on the discovery that the mortality from appendicitis is alarmingly high. There is trouble somewhere and the trouble too often goes back to failure of diagnosis; the cure, let it be known, is surgery."

It may be asked why I am stressing surgery and in your minds you are saying we know this already. Do you also know that in those cases of appendicitis operated on in the first 12 hours the mortality is less than 1 per cent, that in 24 hours it jumps to 2.55 per cent and in 72 hours to 11.8 per cent? The mortality rate in delay beyond 36 hours varies between 11 per cent and 16 per cent depending to a large extent on the surgeon and his judgment. These figures say more than I could in many words and should impress on your minds the supreme importance of early diagnosis and prompt operation. It is an unfortunate truth that you do not see your patients (many of them) until after these precious few early hours have slipped by. In a series of cases collected by Dr. F. W. Bailey, of St. Louis, and reported in October, 1933, the average length of time spent in nefarious home treatment either by the family or by the doctor was 70 hours. In November, 1930, Drs. R. M. and W. P. Harbin, of Rome, Ga., reported 1,080 cases of acute appendicitis operated on in their hospital; 336 of these came to the operating table within 24 hours and there was not a single death. 774 cases after 24 hours were operated on with the result of 31 deaths. 12 per cent of the 336 were drainage cases and 48 per cent of the 744. I think if we quoted no further statistics we could draw

from these thousand patients the sound conclusion that delay spells disaster, that to await developments in a case of acute appendicitis is inexcusable. Some years ago a prominent New England physician, who prided himself on the promptness with which he brought his appendicitis cases to an equally prominent surgeon, remarked, "I always like the surgeon to watch these cases with the knife in his hand," the surgeon replied "I always like to watch these cases with the appendix in my hand." These men had the right idea and one that I would every physician and surgeon in the State of Georgia had as a routine.

It is not my intention to be too hard on the doctors, however. It is true that delay in hospitalization accounts for many deaths but more can be accounted for by delay in calling a doctor and by laxatives. Dr. Hubert A. Royster of Raleigh, N. C., has expressed it well by alliteration, he says, "Procrastination and pernicious purgation are two things we must educate our patients not to practice." There is no doubt that purgation causes by far the largest number of perforations through increased intraintestinal pressure due to forced peristalsis. Dr. Moynihan, of England, says, "Over a period of years I do not recall a single case of perforation and resulting peritonitis in appendicitis not preceded by purgation." Dr. H. A. Lowe, of Springfield, Mo., reporting a series of cases, found that 37 per cent had had castor oil, 19 per cent had had a second dose of oil or a dose of magnesium sulphate. Of the total number admitted to the hospital, 38 per cent had ruptured appendices or just 1 per cent more than the per cent having had purges. Drs. Jno. D. Bower and J. H. Clark, of the Samaritan Hospital of Philadelphia, reporting 750 cases in 1927, found that delay and the giving of laxatives was in exact proportion to the death rate. They instituted an educational program by a printed card sent to physicians patronizing this hospital for distribution to their patients. The card reads as follows: "In the presence of abdominal pain never give a laxative. Call your family doctor. Apply an ice cap. Give an enema. An abdominal pain lasting over 6 hours is serious." And to the doctor: "Pain

and local tenderness are sufficient indications to call a surgeon. Never give morphine until the diagnosis is certain." Simple rules—yes, and in the very simplicity lies safety. Dr. Urban Maes calls morphine the smoke screen of death. May none of our patients die because of the fancied security of comfort.

Not all of delay and the giving of purges by our patients can be laid to the lack of our giving proper education. The rapid rise of cults of various kinds and the large, even though temporary, following they have must bear the guilt of many deaths. Likewise the little knowledge which is such a dangerous thing imparted by periodicals and in the columns of daily newspapers have lulled the laity in the presence of danger. Where 30 years ago the first thought when a pain hit the abdomen was appendicitis and getting it out, (just to be in the style if nothing more) now it is no longer stylish to have a scar but it is to have a healer or a rubber or to know that the pain is after all due to the fact that Johnny did not get enough Vitamin D, X or Z in his yesterday's diet. Ergo clean out the faulty food and what better than castor oil and start anew. Later when the pain does not leave or when wise mother nature rejects the repeated oil the doctor is called and instead of a simple appendicitis he finds, if he's lucky, a walled off abscess or, if not a fortunate day for him and his patient, a general peritonitis.

I regret that I could find figures to give you for one year only, that of 1926, of those dying who had had laxatives. I believe the large number will however prove safe to draw a conclusion that the death rate is directly due to this cause even more so than to delay. Of the 17,335 deaths, 12,655 had been given laxatives, in 11,680 of these this was the cause of death. In a series of 207 fatal cases reported by Dr. Royster, of Raleigh, between 1913 and 1923, all had received laxatives.

This in brief sums up the cause of the high mortality; delay in diagnosis, delay in the time between diagnosis and operation and purgation. Of course we do not mean to whitewash the surgeon entirely; he too must take his share of blame and errors of technique, but much more so errors as to the

proper time of operative interference when the case passes 12 to 24 hours. In case of a simple appendicitis with a successful operation the doctor should have the credit; with a ruptured appendicitis, an operation and a life saved, the surgeon should have the credit; with a ruptured appendix, operation, and a life lost, who is to blame? physician, patient, family or surgeon? In every such case someone has blundered.

Perhaps a few words here will help us to pick this beam from our own eyes as physicians and then we can see more clearly the mote in the eyes of others. (Or perhaps I should transpose mote and beam, I hope so, and consider it done). There is perhaps no disease, when it is absolutely typical, easier to diagnose, if the dicta of Jno. B. Murphy are closely followed. On the other hand, an atypical case can confront us with vexatious problems undreamed of by a tyro. I know that you are familiar with them but they will always bear repeating if only to get our bearings, I speak of Murphy's postulates, first pain, sudden and severe general, but primarily referred to the epigastrium; second, nausea or vomiting three or four hours after pain; third, abdominal tenderness, more marked over the appendix and muscle spasm; fourth, fever; fifth, leucocytosis, AND bear in mind these must come in the order named. With these to go on we could make a diagnosis 100 per cent of the time. It is not always so easy so in order to play safe we must pick out one to stand on. Pain is always present and so should stand first; tenderness is absent in only 11 per cent of cases; a leucocytosis is absent in only 20 per cent of cases; a leucopenia is never present. If a rule was made to call a surgeon in every case where there was an abdominal pain lasting over six hours and especially with local tenderness, I believe, as physicians, we would stand exonerated of all blame in any individual case. If we erred it would be on the side of safety and it could be said only by an ignorant one that we were shirking responsibility by running to a surgeon for every little whipstitch. Though greatly relieved, our responsibility does not end with a speedy diagnosis and rapid evacuation to the hospital. In this day of preventive medi-

cine we owe it to the laity to inform them of the dangers of treating "belly aches" with castor oil and of delay in such cases. A proper enlightenment on their part would do a world of good to wipe out the unfortunate reputation that abdominal surgery has fallen heir to of late years. A columnist who has a wide syndicate, Mr. Driscoll, writes in a late article that the depression has done one good thing, it has saved many abdominal operations and consequently many lives through the lack of money. Of course, he is wholly in error and his information entirely wrong, but it serves to show in what low repute surgery is held by some who are of the intelligent class. We know that the fault is the surgeons only in the exceptional case, the errors of judgment do account for the loss of some lives. On the other hand, improved technique and more modern methods far overbalance this loss.

Atypical Cases

What has been said of acute appendicitis will apply to other acute conditions of the abdomen. Which fortunately for the most part are so violent in their onset and so severe in their continuation stop both physician and patient from that feeling of security (false that it is) which is brought about by the comparative comfort that comes, too often from morphia, but at other times with more simple remedies. The very violence of an intestinal obstruction, the profound shock of a duodenal perforation, the agony of an acute pancreatitis, force such patients willy-nilly to the hands of a surgeon. I scarcely need urge you as to what you should do here, your patient will do that, for happily that smoke screen of fancied safety, morphia, can only bring relief when given to the point of danger, surely we will not practice such physic atypical appendicitis, the fecolith type, the acute obstructive type from adhesive bands, etc.; also we have ectopic pregnancy; acute perforation of the gallbladder; acute perforation of gastric and duodenal ulcers; intestinal obstruction, strangulated hernia, or otherwise; appendicitis in children; acute pancreatitis. Every table of mortality which refers to any of these conditions shows a close relationship between delay and death.

Therefore it can not be too greatly emphasized that the all important factors in reducing the high mortality rate are speedy and correct diagnoses and rapid operative interference. It would be difficult to say just what per cent of deaths are due to the lack of a diagnosis in atypical cases of appendicitis, but it is certain that some patients die from this cause. For this reason I thought it well in making a plea for a reduction of our present rate to say a few words about such cases. A common type is that due to a fecolith. Here the pain is sudden and of a severe spasmodic, colic type. The patient is often times awakened in the middle of the night or in the early morning hours. Because of the rapid onset of gangrene due to the obliteration of the circulation, the pain may soon quiet down, frequently in most cases it returns when the peritoneum is invaded. Fever is usually low at first, in many cases may be lacking, due to the same cause of the rapid gangrene, namely the shutting off of the blood supply and a consequent lack of absorption of toxins through the blood stream until such a time as the process begins to invade the gut proper and the peritoneum. There may be little, or as in such a case seen by Dr. Revell and myself not so long ago, no rigidity, tenderness or muscle spasm (and the pain was never below the umbilicus, was wholly epigastric for 24 hours). One fortunate finding, however, is a leucocytosis with a high percentage of polymorphonuclear cells. In such cases the diagnosis is made from the history (which in every case, typical or otherwise, is most important) and from a study of the blood picture. With the history, as briefly outlined above, of unusually severe, colic-like pain and where a stone can be definitely ruled out there can be but little doubt that we are dealing with the acute obstruction type of appendicitis, the most dangerous type of all when delay is practiced.

There is yet another type of appendicitis which often times presents untold difficulties as to diagnosis: that in children. According to Holt and Howland the vast majority of cases of appendicitis in children over five years of age differ in no wise from that seen in older people. In the same statement they

call attention to the fact that the reverse is true in children under five and that the disease is irregular in its onset and insidious in its course. Fortunately pain is a constant symptom and is of the utmost importance. In many cases this and the blood picture is all we have to go on. These two are sufficient however to warrant the calling of a surgeon. A point right here that may help is that children with appendicitis, regardless of the lack of typical findings, will rarely sit up; also there is commonly rigidity of the flexors of the thigh and in subacute cases where the child does walk he limps and there is a suggestion of TB of the hip. Remember too that however important rapid operative interference is in an adult far more is it true in a child because peritonitis so rapidly develops and because of the thin, short omentum is poorly cared for. An important finding that should never be overlooked is that oftentimes in children the appendix is low in the pelvis and that we may have a child screaming with pain on urination or defecation because of an inflamed appendix. Do not allow this to mislead you into treating the bladder or rectum to the neglect of the true cause.

In reference to the other acute abdominal conditions a quick review of an analysis of 1,000 cases made by Dr. Bower, of Philadelphia, will prove very informing and helpful and will, I am sure, make yet more impressive the need for quick action. Of these 1,000 cases 65 were ectopic pregnancies and the mortality 4.1 per cent, but there was not a single death in the cases operated on within 24 hours. There were 13 cases of acute pancreatitis with a mortality of 66 2-3 per cent and likewise there was not a single death in those cases operated on within the 24 hour period. There were 52 cases of perforated duodenal and gastric ulcers, here the mortality was 4.35 per cent in spite of early operation, but 60 per cent in those where there was delay. 129 cases of intestinal obstruction were in the series and there was a mortality of 13 per cent in early operative interference. On delay this jumped to the large percentage of 63. The remaining cases, 751 in number, were acute appendicitis, where an early operation gave a mortality of 4 per

cent which, in the delayed cases, went to 15.7 per cent. It would be hard to find a more eloquent plea for the necessity of calling a surgeon quickly than the above report. Unfortunately this report can be duplicated by very nearly every hospital in this country. I hope that it can not be duplicated by any in our state.

Patients would never be brought too late if it was grounded in the minds of general practitioners that any pain in the abdomen lasting over six hours is serious. Remember too the words of the immortal Deaver and but few cases of acute appendicitis will slip by you, "In an acute abdominal condition where there is an absence of an abdominal scar, appendicitis should be thought of first, last and all the time."

A few words to the surgeons in closing. Do not be too zealous nor linger too long in an attempt to make a preoperative diagnosis. Over ambition here, *will*, I am persuaded, make worse the prognosis. I feel sure that 24 hours is the longest a patient should be allowed to go even in a hospital—it is the zero hour of the Drs. Harbin, of Rome, Ga., and their report which I briefly summarized for you shows their wisdom. I can not better end this paper than to quote Dr. Harbin's paraphrase of Shakespeare:

"There is a tide in surgical disease,

Which, taken early, leads to recovery,

Omitted—all is bound up in shallows and misery."

Discussion on Paper by Dr. S. C. Ketchin

DR. R. H. CHANEY (Augusta): Dr. Crane is absent, and he asked me to open the discussion in his place. I do not know whether I can fill Dr. Crane's shoes.

If you will go back into this question you will find that Taber, years ago, in his spectacular operating room, used to slash his patient and say, "Yes, appendicitis." There was purgative performance of a pernicious type, and that has not changed an iota. It is peculiar, as Dr. Ketchin has so well pointed out, I believe in the best paper I have heard since Mark Willis gave one at the American College of Surgeons at Philadelphia in 1924 on the same subject. He brought out at that time practically the same line of factors as are shown on the charts Dr. Ketchin has posted here, and you will notice that just after the 1924 period one of the little drops took place. Again an early successive drop came in mortality after 1912. Then we had the sudden rise; we had a little spec-

tacular seance in regard to it, and a little bit of attention was paid to it, and then the thing simmered up. Every once in a while we have to have our consciences stirred up in regard to some of these factors. There is no question that delay is hazardous. We must consider that in the first day, the first twenty-four hours after an acute belly arises from appendicitis, mortality is nil, and on the third day the mortality has jumped to around 16 or 17 per cent, and if you take it when general peritonitis is arising, the mortality is even higher. It almost goes back to the mortality that Alonzo Clark showed years ago under the massive doses of morphine that were used in the treatment, that in those instances the medical care of general peritonitis was only accompanied by a 45 per cent mortality. If you take records in certain hospitals, as Mark Willis did and showed in 1924, you will see that in certain hospitals the rate of mortality after general peritonitis had taken place from a surgical treatment was a great deal higher than the straight medical management. Those are things that make us wonder whether we should take our statistics from a surgical standpoint and check them up in regard to the date in the disease at which the operation occurred to the mortality, and again from the date of the onset of the disease to the time of death. In that way I believe a great many of our mortality factors would be changed. Thus far, such studies have not taken place.

Again, we say many things from the surgeon's standpoint for the education of the public. I believe the public at the present time is fairly well appendicitis-conscious, a great deal more conscious in regard to that than the surgeon and perhaps the practicing physician is. But at the same time too frequently we hazard our patient by operating at the wrong time, because we let the patient drift into the period of general peritonitis, and because our public is educated to the operative treatment of appendicitis, the operation is almost forced upon the surgeon unless he has a great deal of backbone to wait for a localization to perform the operation.

Dr. Reginald Fitz wrote the original monograph and gave the name "appendicitis" to the disease. Previous to that it was spoken of as typhlitis or paratyphlitis, and he brought out the fact that it was a disease of the appendix. Two years before the first operation was performed, he brought out the fact that it must be handled as a surgical measure.

Those of us practicing surgery have to take off our hats to the medical man who points out the mortality of appendicitis as a surgical condition to us, and go back to the history of it at its onset, and remember that a medical man primarily pointed the way to the surgeon in the treatment of appendicitis.

DR. S. C. KETCHIN (Louisville): I shall read the balance of my paper.

Dr. Ketchin read the last two pages of his paper.

DR. KETCHIN: So after all, my paper was simply a plea for early operative interference in these acute abdominal conditions.

CARCINOMA OF ABDOMINAL TESTES*

Report of Two Cases

W. P. HARBIN, M.D.

LESTER HARBIN, M.D.

Rome

Malignant disease of the testes retained within the abdominal cavity is admitted to be a medical rarity. These cases are presented because of the poor results which have been so generally reported and because of the good response to treatment which one of the cases has shown.

Case Reports

Case 1.—R. B. S., aged 15, was admitted to the Harbin Hospital complaining of generalized abdominal pain of three weeks' duration, with a loss of 10 pounds. This pain increased in severity and was accompanied by an elevation of temperature but there was no vomiting. He was an acutely sick boy. An examination revealed abdomen tender throughout, with the point of maximum tenderness in the right lower quadrant. Here a large firm non-movable mass was felt. His temperature was 99° F. and the white blood cells numbered 9,350. The preoperative diagnosis was acute appendicitis with abscess formation.

When the peritoneal cavity was opened a large quantity of bloody fluid was encountered. There was a large discolored mass three times as large as a normal testicle in the right iliac fossa. This tumor mass was removed and the pathologic report was as follows: "This tumor is made up of round cells embryonic in character. The cells seem to be of one type and are not showing the variations found in teratomas. The tumor shows no tendency toward glandular formation and should be classed as an embryonal carcinoma."

The immediate postoperative course was uneventful and the patient left the hospital on the fourteenth day. His general condition became progressively worse and he died two months after leaving the hospital.

Case 2.—J. W. M., aged 49, was admitted to the Harbin Hospital complaining of a dull persistent pain in the lower abdomen and back of twelve months' duration.

An accident occurring at 10 years of age was of interest. While riding horseback a severe blow from the horn of the saddle was received in the scrotal region. Since that time a testicle has not been discovered in the left side of the scrotum. The patient was quite sure that two testicles were present in his scrotum before this accident. The patient has one son with one undescended testicle.

The patient was thin and pale but not acutely ill. There was a hard, large, non-tender immovable mass in the lower abdomen which extended upward from

*Read before the Medical Association of Georgia, Augusta, May 10, 1934.

the left pubic bone three-fourths of the distance to the umbilicus. This mass was also easily palpated per rectum. The right testicle was normal and the left side of the scrotum was empty. The hemoglobin was 84 per cent; red blood cells were 4,300,000, leukocytes 7,900 with 62 per cent polymorphonuclear leukocytes and 38 per cent lymphocytes. The Kahn test of the blood was negative and only a faint trace of albumin was found in the urine.

The diagnosis of carcinoma of an abdominal testicle was made and operation was advised. There was a hard glistening pearly white mass well fixed to the left side of the pelvic wall extending from the left internal inguinal ring to the left iliac vessels. The pathologic report was: "The tumor is made up of large masses of polyhedral cells of the embryonal type. The stroma is heavily infiltrated with lymphocytes in many places. There is no tendency toward gland formation and this tumor should be classed as an embryonal carcinoma." Roentgen-ray therapy was begun before the patient left the hospital and is being continued. The patient is now apparently well eight months after operation.

Comment

1. Undescended testicles when compared with inguinal hernias occur at the ratio of 1 to 67. (Eccles⁷, Coley⁵).

2. One abdominal testicle out of seventy-five undergoes malignant changes and for each malignant abdominal testicle fifteen scrotal malignancies occur (Bulkley³).

3. Ninety-two cases of malignant abdominal testes have been assembled from the literature, (Bulkley³ 59, Aurousseau¹ 17, Butt⁴ 1, Cunningham⁶ 3, Pearlman¹¹ 1, Milch¹⁰, Marcuse⁹ 1, Gingold and Bessen⁸ 1, Rea¹² 6, Bowman² 1).

4. Our first case being only 15 years of age is younger than any other case reported in the literature.

5. Torsion of the pedicle of a retained abdominal testicle gives rise to acute abdominal symptoms as in the first case.

6. The prognosis is poor. Of the seventy-six cases reported by Aurousseau¹ only six survived for six months after operation. Recent reports are more favorable since roentgen therapy has been used following local excision. This form of treatment was used in the second case and so far the result has been satisfactory.

1. Aurousseau, M. L.: Malignant Tumors of Testicle Situated in Abdomen, *J. de chir.*, 37: 17, 1926. *Abst. J. Am. Md. Asso.*, 86: 1323, 1926.
2. Bowman, J. C.: Malignant Undescended Testicle; Case, *New England J. Med.*, 200: 418, 1929.
3. Bulkley, K.: Malignant Diseases of the Testicle Retained Within the Abdominal Cavity, *Surg., Gynec. & Obst.* 17: 703, 1913.

4. Butt, A. P.: Malignant Disease of the Retained Testicle, *Surg. Gynec. & Obst.*, 19: 419, 1914.
5. Coley, W. B.: The Treatment of Undescended or Malignant Testis Associated with Inguinal Hernia, *Ann. Surg.*, 48: 321, 1908.
6. Cunningham, J. H.: New Growth Developing in Undescended Testicles, *J. Urol.*, 5: 471, 1921.
7. Eccles, W. M.: *Brit. M. J.*, 1902, 503-570.
8. Gingold, B. A., and Bessen, D. H.: Intra-abdominal Malignancy of Testicles—Urol. & Cutan. Rev., 35: 708, 1931.
9. Marcuse E.: Malignant Degeneration of Abdominal Testicle, *Zentralbl. f. Chir.*, 55: 1168, 1928.
10. Milch, H.: Embryonal Carcinoma of Abdominal Testis, *Am. J. Surg.*, 2: 251, 1927.
11. Pearlman, S. J.: Malignancy in Undescended Abdominal Testis with Torsion, *J. Urol.*, 18: 637, 1927.
12. Rea, C. E.: Malignancy of Testis, with Special Reference to Undescended Testis: Report of 76 cases (17 cases previously reported). *Am. J. Cancer*, 15: 2646, 1931.

A THEORY EXPLAINING THE EXCITATORY AND INHIBITORY FUNCTIONS OF THE NERVOUS SYSTEM, ESPECIALLY THOSE OF THE BRAIN

Review

BRAWNER, JAMES N. "A theory explaining the excitatory and inhibitory functions of the nervous system, especially those of the brain, with a consideration of inhibitory disturbances as causes of many of the symptoms manifested in mental disorders." *Journ. Med. Assn., Georgia*, (June) 1934, 23, 3-15.

There is a particular attraction about any attempt to explain inhibitory phenomena on the basis of anatomical fact. Virchow's premise that every physiological process has its anatomical corollary is as valid in the nervous system as it is in pathology. In his paper on excitation and inhibition. Dr. Brawner has suggested that impulses entering the neurone through dendrites farthest away from the axone are excitatory while those which impinge on those nearer the axonal pole are inhibitory. These inhibitory impulses travel over the lipid films in the body of the neurone and neutralize or inhibit the action of descending excitatory impulses.

If we examine this view critically, we find that it is compatible with much of our anatomical and physiological knowledge, and the view that impulses acting at one part of the cell may inhibit it while an impulse reaching the cell at a different point may result in excitation, occurs constantly in consideration of the inhibitory mechanism.

In the present state of neurohistology, we see the nerve cell—say an internuncial cell in the spinal cord, appearing as a nucleated body which receives long branching dendrites and is provided with a single efferent axone. Surrounding the cell-body and its dendrites there is a rich mesh-work of fine fibrils which are the peritermal branches of the axones of other neurones that may exert an influence on the cell. Each of these fibrils ends on the dendrite or cell-body by means of a small end-bulb or loop of the order of about 1 to 3 or 4 microns in diameter, so that in a preparation made by Cajal's reduced silver impregnation method perikarya and dendrites are "peppered" with hundreds of these *boutons terminaux*. The bou-

(Continued on Page 31)

THE JOURNAL

OF THE

MEDICAL ASSOCIATION OF GEORGIA

Devoted to Welfare of Medical Association of Georgia

139 Forrest Avenue, N.E., Atlanta, Ga.

JANUARY, 1935

MEDICINE AT THE CROSSROADS

The next few years will determine whether medicine shall remain a learned profession or be degraded to the level of a trade. It behooves us, therefore, to attain to new heights of solidity and cooperation to follow unswervingly our ideals of service and devotion to humanity and to strive unceasingly for greater scientific accomplishments.

EUGENE E. MURPHEY, M.D.

THE HIGH COST OF SICKNESS

In this day of revolutions and evolutions it behooves the medical profession to organize and prepare for an attack by the politicians for the benefit of the so-called "forgotten-man." These "forgotten-men" are organized in an aggressive and compact body for a militant attack upon society for their own benefit only.

It may be true that the artisan and the laborer have been imposed upon, I will not attempt to discuss this phase, but I do know the medical profession has certainly been slighted and has become the "MOST-forgotten-man." We do not ask charity; we have been the real dispensers of charity from the beginning of time, yet we are called upon by social workers, churches, and other agencies to increase our charities greatly to the detriment of our children and our families. The standard of "HIGH-living" in America has now reached the point where the majority of our charity patients must have at least one automobile in the garage and deem it the duty of the general public to see that they have a new car each year.

Labor is now demanding five hours as a

day's work, and will get it if it is within the power of the politician to give it, and at the same time, draw pay for twelve hours' work. We doctors work twenty-four hours a day and do not get paid for five. The injustice of the new social structure is quite evident when you stop to think of it. The man who gets paid for twelve hours and works only five is now beginning to cry out about "the high cost of sickness, we must socialize medicine." The doctor must become a football for politicians. It will be a sad day for the sick when the doctor becomes a hireling of the Government: progress, ambition, and individual initiative will cease, the public will receive just what it pays for—MEDIOCRITY.

The Government has been a factor in its "professorial-highly-specialized" committees, making the public think the medical profession is responsible for the "high cost of sickness." The committee findings, in my opinion, were most unfair. The high cost is due to the "HIGH-NOTIONS" of the patient to whom only high-priced private rooms, special nurses, and the modern day frills are necessary. Their grandmothers stayed at home, the family did the nursing, the old lady lived to tell the tale and had a dozen children before the end of her productiveness, while their granddaughters, with all the frills of American standards of living, are using contraceptives, lipstick, and paint. To become a mother is almost a crime—and is generally accidental.

We must organize and do our own investigating as to the cost of illness. The committee should not be composed entirely of high-brow professors who have never practiced medicine and know nothing of its hardships and slim pay. Let the sufferer at the hands of an overworked charity system have a voice in the analysis of things and give a report that is fair both to the doctor and to the public. In all fairness to the medical profession the public should know the meager annual income of the average doctor, and also be correctly informed as to the actual cause of the high cost of illness.

JOHN W. DANIEL, M.D.

Footnote: Information for our younger members and others living outside of Georgia: Dr. Eugene E. Murphey, Augusta; Dr. John W. Daniel, Savannah; and Dr. Wm. R. Dancy, Savannah, are all former Presidents of the Medical Association of Georgia.—Editor.

MEDICINE AND THE NEW ERA

Today the medical profession of this country is confronted with difficult and unusual problems. The government abetted by the general populace in endeavoring to subject us in our professional work to its will and to its erratic plans, thereby annihilating the prestige and the finest principles of the greatest of all professions. Our heritage, our traditions, our tone, our ethics, and even our freedom in the practice of medicine are in jeopardy. The New Era makes it necessary that we should reconstruct our defensive ground—our basal fortifications; and do it with concerted action and rare good judgment.

WM. R. DANCY, M.D.

THE SOUTHEASTERN SURGICAL CONGRESS JACKSONVILLE ASSEMBLY

The Southeastern Surgical Congress, through its Secretary, Dr. B. T. Beasley, announces the sixth annual assembly of the Congress which will be held in Jacksonville, Florida, March 11, 12 and 13, 1935. The Congress has met previously in Atlanta, Birmingham and Nashville.

The states composing the Congress are Alabama, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee and Virginia. A record attendance is anticipated at the Jacksonville meeting. Since March is the most desirable month to visit the land of flowers many surgeons will no doubt combine business and pleasure and attend during this season of the year.

Some of the most distinguished surgeons in the country representing the different surgical specialties have been invited to appear on the program. A partial list of those who have already accepted places is as follows: Doctors Walter C. Alvarez, Hugh Cabot, Willis C. Campbell, George W. Crile, John F. Erdmann, Paul Flothow, Ralph Green, Arthur Hertzler, C. Jeff Miller, Alton Ochsner, J. C. Patterson, J. Knox Simpson, J. W. Snyder, W. A. Weldon, I. A. Bigger, James W. Bodley, Gilbert F. Douglas, W. F. Harper, J. Shelton Horsley, Chevalier Jackson,

Chalmers H. Moore, R. B. McKnight, V. B. Philpot, William M. Scruggs, J. Warren White. More than twenty others will be listed when the program is completed. Look for the completed program which will be mailed about February 15, 1935.

For information address Dr. B. T. Beasley, Secretary-Treasurer, 1019 Doctors Building, Atlanta, Georgia.

The JOURNAL would like to record the scientific work of Georgia doctors. It earnestly requests, therefore, that each physician in the State who publishes a contribution in some other medical periodical submit an abstract of the article for these columns.

ILLICIT TRAFFIC IN NARCOTIC DRUGS RESOLUTIONS ADOPTED BY

GEORGIA MEDICAL SOCIETY, SAVANNAH

WHEREAS, the illicit traffic in narcotic drugs has increased to an alarming extent due to the failure of the federal and state governments to co-operate in their efforts to stop this traffic, and

WHEREAS, physicians are imposed upon with increased frequency by persons wishing to illegally obtain narcotic drugs, and

WHEREAS, in a great many instances persons perpetrating these frauds upon physicians go free on account of the loop holes in the laws,

THEREFORE, be it resolved that the Georgia Medical Society goes on record as favoring the adoption of the Uniform Narcotic Drug Act, which will unify enforcement of restrictions on the illicit traffic in narcotic drugs,

BE IT FURTHER RESOLVED, that a copy of these resolutions be sent to our Representative and Senator with a request that they use their influence to have the next legislature adopt the Uniform Narcotic Drug Act.

AN UNAUTHORIZED SOLICITOR

James Cooper, who sometimes assumes the name of Charles Cooper, has been obtaining money for subscriptions to various publications of the American Medical Association. He is not an authorized representative of the Association. He claims to also represent the National Circulating Company and the Martin-Rosebury Corporation of New York City. Cooper has recently been reported in Florida. He is described as about 22 years of age; 5 feet 10 inches in height, with a fair complexion.

The Medical Association of Georgia will hold its next session at the Biltmore Hotel, Atlanta, May 7-10, 1935.

WOMAN'S AUXILIARY

OFFICERS

President—Mrs. J. E. Penland, Waycross.

President-Elect—Mrs. E. R. Harris, Winder.

First Vice-President—Mrs. Ralph H. Chaney, Augusta.

Second Vice-President—Mrs. J. M. Barnett, Albany.

Third Vice-President—Mrs. G. Hugo Johnson, Savannah.

Recording Secretary—Mrs. Warren A. Coleman, Eastman.

Corresponding Secretary—Mrs. B. H. Minchew, Waycross.

Treasurer—Mrs. Chas. H. Richardson, Macon.

Parliamentarian—Mrs. Mather M. McCord, Rome.

Historian—Mrs. M. F. Haygood, Alto.

Chairman Public Relations—Mrs. Evert A. Bancker, Jr., Atlanta.

Chairman Press and Publicity—Mrs. J. Bonar White, Atlanta.

Chairman Legislation—Mrs. Dan Y. Sage, Atlanta.

OUR STATE SCRAP BOOK

Our State Scrap Book is a source of information that neither minutes nor history can give. It also supplies a comprehensive and personal touch which cannot be obtained in a more interesting way. Social details, excerpts from reports, addresses, observations are made which have no part in other records.

When the important items are given their correct emphasis in amount of space used in press notices, they become invaluable. When the History of the First Ten Years of the Woman's Auxiliary to the Medical Association of Georgia was written recently, data supplied from the Scrap Book was not available from other sources. For example, the addresses of some of the physician guest-speakers were missing. Mrs. White wrote to these physicians, only to find that the talks were extemporaneous. But the publicity chairmen had sent resumes of several to the papers and these were included in convention reports. Names, organizations data, programs in the Scrap Book, enabled at least two Auxiliaries which lost their reports, to complete them.

Therefore, I urge the presidents and chairmen of press and publicity to write detailed reports of meetings. All realize that meetings open with prayer, reading of minutes and treasurer's report. These are not news; but who presides, records, and prays, are. The treasurer's report has meaning for others, when from it we know that the Student Loan, Hygeia, and Auxiliary health activities are promoted. Merely to say that Mrs. Blank reported on health or public relations, is insufficient. Neither the absent members nor the public can gauge Auxiliary activity unless real information is provided.

Auxiliary notices are not the only ones for the Scrap Book. Any notice concerning the activities of members in forwarding Auxiliary objectives is news. If a member addresses or arranges for the program in other organizations, or if she holds chairmanships in them that interpret the Auxiliary and be-

come channels for the opinions of the medical profession, these should be Scrap Book material.

The first Scrap Book was given by the first President of the Georgia Auxiliary, Mrs. James N. Brawner, of Atlanta. She kept all clippings of the four years, 1924-1928 and when she presented the book, it was to date. In 1930, the Third Vice-President became Chairman of Scrap Book, and after nine years the first book was filled. The present Chairman gave the new one, from which the district Scrap Books, the History, the Health Education and Public Relations books are patterned.

Each county Auxiliary should secure three clippings or pictures for her county, her district and the state books. The State Scrap Book Chairman keeps in touch with district managers and county presidents so she may keep the book up to date in a graphic, descriptive way, thus making it a permanent and useful source of information for the State Auxiliary.

MRS. G. HUGO JOHNSON,
Chairman, State Scrap Book.

RICHMOND COUNTY

The Richmond County Auxiliary met in November at the home of the President, Mrs. Ralph H. Chaney in Augusta. The wives of the new members of the faculty of the University of Georgia Medical Department were guests.

Dr. W. A. Mulherin, Counselor for the Auxiliary, addressed it, emphasizing the purposes of the Auxiliary. He stated that outstanding is the cooperation given in health education and that every county Society that had an active Auxiliary had a more efficient society. The different activities of the Auxiliary were explained by Dr. Mulherin and members left that meeting feeling stimulated to do their part.

The business of the Auxiliary at this meeting included the reading of the revised Constitution and By-Laws and plans for philanthropic work. The annual party for

the Student Loan Fund will take place after the New Year begins. The Auxiliary enjoyed a social hour and the guests were invited to become members.

CHEROKEE-PICKENS

The Cherokee-Pickens Auxiliary learned that the Cherokee Council on Child Welfare would meet in Canton at the time of the Auxiliary meeting. So the Auxiliary omitted its regular session and attended the Child Welfare conference in a body. This was a splendid means of self-education. One talk was on the value of prenatal and postnatal care, the other on the proper feeding and care of infants, and immunization.

WARE COUNTY

Mrs. R. L. Johnson, retiring President of the Ware County Auxiliary, requested officers and chairmen to assemble all suggestions and material that they found helpful and she gave them heavy service envelopes in which to place them. These were given to the new President. Members accepting office need all the "tools" possible. Congratulations, Mrs. Johnson! We await such reports from other Auxiliaries.

SIXTH DISTRICT

The Sixth District Auxiliary met in Macon at Hotel Dempsey December 5th, Mrs. W. M. Cason, District Manager, presided. Mrs. H. Dawson Allen, Secretary-Treasurer, and Mrs. Richard Binion, Parliamentarian, were present. Mrs. Emory Clay of Macon, welcomed the members; Mrs. James I. Garrard of Milledgeville, responded. Past Presidents of the State Auxiliary present were Mrs. C. C. Hinton and Mrs. C. C. Harrold of Macon, Mrs. S. T. R. Revell of Louisville.

County reports were given by Mrs. Emory Clay, Bibb County; Mrs. L. P. Longino, Baldwin County; Mrs. S. T. R. Revell, Jefferson County; Mrs. S. B. Malone, Washington County.

Dr. O. L. Rogers, County Health Officer for Washington County, spoke on the "Why and Wherefore of Christmas Seals" and stressed the necessity for supporting the Anti-Tuberculosis work.

Mrs. J. E. Penland, State Auxiliary President, addressed the meeting and gave the high lights from her report as read at the Southern meeting in San Antonio. Mrs. Ed. Greene and Mrs. George Williams, of Atlanta, were the Georgia delegates.

SOUTHERN MEETING

Mrs. Greene and Mrs. Williams report the largest registration the Southern Auxiliary

has had, nearly seven hundred. The social affairs were unusually enjoyable, with unique decorations and with visits to historic places. The Auxiliary held two sessions. An increase of twenty Auxiliaries was made and for the coming year the new President, Mrs. White, Atlanta, has announced as the particular objective, "Increased membership, through informed members." Mrs. Eustace A. Allen, Atlanta, is the Corresponding Secretary of the Southern Auxiliary for 1934-1935.

NOTES

Mrs. John W. Daniel, of Chatham Auxiliary, is Regent of the State D. A. R. Mrs. James Wood, Fulton Auxiliary, is President of the Daughters of Pilgrims for Georgia. Fulton Auxiliary also supplies the Secretary for the Georgia Workers for the Blind, and the Secretary-Treasurer of the Georgia Social Hygiene Council. Mrs. E. R. Harris, Barrow County Auxiliary, is President of the Winder Woman's Club. Mrs. J. M. Barnett, Dougherty County Auxiliary, is State Chairman of the Georgia Congress of P.-T. A. in reading.

CANCER CURE VENDOR ESCAPES PROSECUTION: DIES WITH CANCER

Charles W. Mixer, self-styled cancer specialist of Hastings, Mich., is dead of cancer on the eve of his prosecution on charges of violating the Federal food and drugs act. His principal medicine, "Mixer's Cancer and Scrofula Syrup," composed of potassium iodide, senna, licorice, yellow dock root, sarsaparilla, wintergreen, glycerine, alcohol and sugar syrup, had for a long time evaded the Federal law, until Food and Drug Inspectors intercepted a shipment to Chicago in July, 1932, and based the recent case on it. This step was necessary, as the Federal government can bring cases under the Food and Drugs Act against interstate shipments only.

Even during Mixer's last illness, his office force continued to sell and ship the so-called "cancer cure," which fact led the Government to request that the trial proceed without delay, in spite of the defense attorney's plea that the defendant was seriously ill and could not stand trial. Mixer's death has now blocked the suit, which will necessarily be dismissed automatically.

Reputable physicians are unanimously of the opinion that there is no medicinal cure for cancer. The manufacturer employed a physician to care for his own cancer. By correspondence he "diagnosed" his unseen patients frequently.

The United States Department of Agriculture again cautions to "cook pork well." Failure to observe this precaution invites danger from trichinosis.

GEORGIA DEPARTMENT OF PUBLIC HEALTH

T. F. ABERCROMBIE, M.D., *Director*

BIRTH REGISTRATION

In 1823, one hundred years ago, Georgia passed an Act to establish an office for recording the births of the citizens of the state. In 1875 another law was enacted requiring the physicians in attendance at birth to file a certificate of birth with the ordinary. Satisfactory birth registration proved a failure under both of these laws so, in 1914, a vital statistics law was passed providing for the establishment of a Bureau of Vital Statistics under the Department of Public Health with other provisions tried out successfully in many states of the Union. However, due to a lack of appropriation, the Bureau of Vital Statistics for state wide collection of birth and date records was not established until 1919. Although the State has been trying for one hundred years to secure registration of births it is a regrettable fact that these important records still lack the completeness and accuracy to assure their full legal and public health value.

The preamble of the Act of 1823, which is quoted below, states a very important need for birth registration:

"Whereas, much inconvenience has been experienced in this State from the difficulty of obtaining testimony of the ages of persons interested in questions or rights

plexity of society. In cases of crimes against young girls and illicit relationship with those who have reached the "age of consent" depend upon the exact age of the injured girl. The girls assaulted are often poor, ignorant and unprotected and if their births are unrecorded, their ages must be obtained from sources unreliable and easily corrupted. With birth registration, this means of the miscarriage of justice is definitely counteracted.

In the child's future life, matters of legacy might arise, his citizenship questioned, his right to vote challenged, his legal ability to transact official business be doubted. Many other emergencies are likely to arise, any one of which might be promptly settled by the information contained in a birth certificate properly filed at the time of birth.

The Vital Statistics Law provides that a certificate of birth be filed by the attendant within ten days after the date of birth. If the birth is not registered within this time set by law, the record loses much of its legal value. Then, too, delay in filing the certificates increase the probability of error. Table 1 shows the births in 1933 by month of occurrence and the month the certificate was filed. From this table it will be seen that a big proportion of the births are not reg-

TABLE 1.—Number of Births, In 1933, By Month of Occurrence and Month in Which the Certificate of Birth was Registered.
Georgia State Department of Public Health.

Month of Birth	Total Births	MONTH IN WHICH BIRTH CERTIFICATE WAS FILED											
		1933											
		Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
JAN	5049	3463	947	256	151	104	38	16	23	15	8	6	6
FEB	4632		3059	947	305	158	50	38	23	12	12	3	6
MAR	5362			3490	1122	370	146	67	76	30	20	12	5
APR	5139				3190	1349	272	115	76	53	29	11	10
MAY	5008					3559	884	242	173	58	27	22	11
JUN	4755						3218	886	389	110	54	20	22
JUL	5268							3162	1513	310	114	44	54
AUG	5460								3873	1045	297	84	47
SEP	5208									3867	909	180	93
OCT	5043										3702	784	282
NOV	4974											3682	775
DEC	5091												3793

before our courts and whereas embarrassing difficulties frequently impede the correct administration of justice on this subject; for remedy whereof." "Be it enacted. . ."

Those embarrassments and impediments to the administration of justice have not been relieved by time but on the contrary have become more acute with the increased com-

istered within the time specified by the law. In some cases the birth is not registered for over twelve months after the date of birth.

Birth records as well as death records are important in public health activities. Infant mortality is the number of deaths under one year of age per 1,000 live births and maternal mortality is the number of deaths from puer-

peral causes per 1,000 live births. Therefore, it is highly important that birth registration be complete in order to know accurately the decrease or increase in infant and maternal deaths. If birth registration is incomplete that would give Georgia a higher infant mortality and maternal rate than is actually the case.

Birth registration is also a means by which valuable health information is furnished the parents of new born babies. The Department of Public Health sends to parents whose baby's birth is registered with the Bureau of Vital Statistics a certificate of notification of birth registration together with a letter of which the following is a part:

"We, as well as you, are concerned in the great responsibility of keeping this baby well, especially during the most dangerous period of life—the first twelve months—many problems are sure to come up about the food, the care of the baby, and what must be done to prevent infant diseases. There are many excellent books and bulletins on the care of babies but they can not, in anyway, take the place of regular visits to a physician.

"The dreaded disease of diphtheria can be prevented by immunization. It is suggested that you have this done between the ages of six months to nine months old as this age period is generally accepted to be the proper age for immunization. Remember the time and be sure to go to your physician and have the baby protected from diphtheria."

These facts concerning birth registration are presented as an appeal to the physicians of the State for their cooperation in this important matter of birth registration.

B. T.

A THEORY EXPLAINING THE EXCITATORY AND INHIBITORY FUNCTIONS OF THE NERVOUS SYSTEM, ESPECIALLY THOSE OF THE BRAIN— REVIEW

(Continued from Page 25)

tons terminaux represent the most common type of synapse in the central nervous system.

The living neurone is constantly being bombarded by discharges of the *boutons* that end on its surface. All of these discharging synapses have been brought into activity by nervous impulses in the periterminal fibrils which are all fundamentally the same. Although the discharge of the branches of one group of axones ending on one cell may cause it to discharge, and the branches of another group may completely inhibit it, nevertheless the impulses traveling in both groups are the same, i.e., there are no specifically "inhibitory" impulses in nerve fibres as distinct from "excitatory" impulses. Whether a nerve impulse reaching the neurone excites or inhibits it must depend on the nature of the synapse or on the currents in the cell which it calls into play.

We are accustomed now to the view that the excitatory state (central excitatory state (C. E. S.) of Sherrington) and the inhibitory state (C. I. S.) of Sherrington) are both built up gradually in the cell. For example one *bouton* may discharge and produce only a restricted local effect on the membrane immediately around it. However, its discharge may seem temporally and spatially with the discharge of other synapses until the whole neurone discharges and an impulse passes down the axone. The experiments of Sherrington and his co-workers have shown that inhibitory states may be similarly built up. It is possible that specific inhibitory synapses may exist, but I believe that it is more likely that the inhibitory effect depends upon the particular chemical or bio-physical reactions called into play by synaptic discharge. These reactions may be crudely regarded as stabilizing the polarization of the membrane and thus inhibiting the downward passage of waves of depolarization.

No consideration of excitatory and inhibitory processes is complete that does not include a mention at least if not an evaluation of the evidences for humoral transmission of excitation from one neurone to another. Briefly the work of Kibjakow, Chang, Dale, Gaddum, Feldberg, Krayner and others have built up an experimental concept that in the autonomic nervous system by sympathetic or parasympathetic transmission involves the mediation of acetylcholine. If this concept can be transferred to the somatic nervous system a rich field for speculation is opened. Are the excitatory and inhibitory processes in the cell fundamentally different—the former physio-chemical and the latter one which calls into play a hormonal mechanism which inhibits excitation? Surely these suggestions illustrate the constant change and rapid development of the subject, and even if it does present considerable uncertainty, still we have confidence that "la science s'avance parcequ'elle n'est sur de rien."

EBBE C. HOFF.

333 Cedar Street.
New Haven, Conn.

The Press Service of the U. S. Department of Agriculture, Washington, D. C., reports on the condition of "relief meat" distributed in Toledo, Ohio, as follows: "Sixteen healthy cats, several laboratory food specialists, and a number of trained meat inspectors, including a specialist in canned meats, have returned a verdict of 'wholesome' in favor of the relief meat distributed in Toledo, Ohio, and vicinity, where suspicion was recently aroused because of a number of cases of illness among children. The cats took an important part in checking up the evidence because they are dainty eaters and have been found the most effective test animals in food cases of this type. Local authorities had used mice in making preliminary tests and on the basis of their results had issued a statement that the meat was bad. Mice, say the federal authorities, are not as dependable as cats for testing meat. Cats usually refuse even slightly spoiled meat, but if they do eat bad meat their reactions are immediate and unmistakable."

NEWS ITEMS

Dr. J. R. Barfield announces the association of his brother, Dr. Hugh H. Barfield, in practice at 610 Doctors Building, 478 Peachtree Street, N.E., Atlanta.

The Burke-Jenkins-Screven Counties Medical Societies met at Waynesboro, December 6th. The scientific program consisted of a *Symposium on Syphilis*, by Dr. Q. A. Mulkey and Dr. C. Thompson, both of Millen; discussion led by Dr. J. M. Byne, Jr., Dr. J. M. Byne, Sr., and Dr. R. L. Miller, all of Waynesboro; Dr. H. F. Bent, Midville; Dr. Byron Daniel and Dr. W. W. Hillis, Sardis.

The staff meeting of the Wesley Memorial Hospital, Emory University, was held on December 15th. Case reports consisted of *Generalized Abdominal Carcinomatosis*, *Coronary Thrombosis*, *Arteriosclerotic Heart Disease*, *Asphyxiated*, *Microcephalus*, *Bronchopneumonia*, *Laceration in Parietal Region*, *Carcinoma of Esophagus*, *Stricture Due to Neoplasm*, *Senile Arteriosclerosis with Hypertension*, *Lobar Pneumonia*, *Hypertension* and *Septicemia*. Dr. S. R. Roberts read a paper entitled, *Bilateral Bronchopneumonia Associated with Neurocirculatory Asthenia*; Dr. L. W. Grove, *Removal of Gallstones from Hepatic Duct*; Dr. Thomas Conner, *Unerrupted Teeth*. Supper was served.

Dr. D. M. Bradley and Dr. W. F. Reavis, both of Waycross, entertained the members of the Ware County Medical Society and their wives at the Country Club on December 6th.

Dr. L. R. Hutchinson, Adel, entertained the members of the Berrien and Lowndes Counties Medical Societies at a turkey dinner on December 11th.

The Jackson-Barrow Counties Medical Society met at Winder on December 3rd. Dr. Edgar G. Ballenger, Atlanta, was a guest speaker.

The Sixth District Medical Society met in the new home of the Bibb County Medical Society, Macon, on December 5th. The scientific program consisted of the following titles of papers: *Iodine in the Treatment of Diseases of the Thyroid Gland*, Dr. Chas. N. Wasden, Macon; *Iron Deficiency Anemia*, Dr. H. D. Allen, Milledgeville; *Skin Cancer*, Dr. G. T. Bernard, Augusta; *The Treatment of Acne Without Scarring*, Dr. Jno. M. Sigman, Macon; *Ectopic Pregnancy*, Dr. O. H. Weaver, Macon. Officers elected were: Dr. Harold C. Atkinson, Macon, President; Dr. Wm. M. Cason, Sandersville, Vice-President; Dr. W. W. Chrisman, Macon, Secretary-Treasurer. The June meeting will be held at Sandersville.

Dr. and Mrs. E. L. Evans, Tifton, entertained the members of the Tift County Medical Society at a turkey dinner on December 12th.

The Clarke County Medical Society met on December 7th. Dr. J. A. Hunnicutt, Athens, read a paper entitled, *Diseases Among Early Americans*.

The Staff meeting of Grady Hospital, Atlanta, was held on December 11th. Dr. Jas. E. Paullin and Dr. McGeachy reported two patients with *Abdominal Lesions*; Dr. J. C. Read reported a surgical case. Dr. R. F. Wheat, Bainbridge, was a visitor.

The Georgia Medical Society, Savannah, held its 131st Annual Meeting on December 11th. Annual reports of officers and chairmen of committees were read and officers elected for 1935.

The Fulton County Medical Society met on December 20th. The program consisted of reports by officers and committees, memorial services for members who died during the year. Officers elected for 1935 were: Dr. Grady E. Clay, President-Elect; Dr. A. O. Lynch, Vice-President; Dr. Ed H. Greene, Member Board of Trustees; Dr. Jno. F. Denton, Member Board of Arbiters.

At the meeting of the Clinical Society of the New York Polyclinic Medical School and Hospital, New York City, held on December 3rd, Dr. Charles L. Scudder, Boston, Mass., read a paper entitled, *Trends of the Treatment of Fractures*; at the meeting held on January 7th, Dr. Elliott Cutter of Harvard University Medical School, Boston, Mass., read a paper on *Treatment of Heart Disease by Total Thyroidectomy*.

Dr. Pol. N. Coryllos lectured on *The Surgical Treatment of Pulmonary Tuberculosis* at the New York Polyclinic Medical School and Hospital, New York City, on January 12th. Dr. Russell L. Cecil will lecture on *Foreign Protein Therapy* on Wednesday, February 6th.

The Georgia Department of Archives, Atlanta, in celebrating the publication of the first official History of Fulton County entertained the following at the Rhodes Memorial Hall, 1516 Peachtree Street, Atlanta, on Sunday, December 9th, from three to five in the afternoon: Hon. Walter G. Cooper, Historian of Fulton County. The History Commission: Ivan Allen, Chairman, Henry C. Peeples, Dr. Louie D. Newton, and Miss Ella May Thornton. The County Commissioners: Geo. F. Longino, Walter C. Hendrix, Paul S. Etheridge, W. L. Gilbert and J. A. Ragsdale. Leading men who aided: Jack J. Spalding, Willis A. Sutton, Judge John D. Humphries, Eugene Mitchell, and Jas. W. Mason.

The Tattnall County Medical Society met at Reidsville on December 19th. Officers were elected for the ensuing year.

The Southeastern Branch Society of the American Urological Association at its Atlanta meeting held on December 7-8, 1934, accepted ninety applicants for active or associate membership. Members accepted from Georgia were as follows: Allison, Gordon G., Atlanta; Anderson, E. B., Americus; Bell, Rudolph,

Thomasville; Birdsong, H. W., Athens; Champion, W. L., Atlanta; Corn, Ernest, Macon; Elder, O. F., Atlanta; Emery, Walter B., Atlanta; Fowler, Major F., Atlanta; Garrard, J. L., Rome; Hubert, M. A., Athens; Hunt, Kenneth S., Griffin; Jordan, Willis P., Columbus; Keaton, J. C., Albany; Kirkland, S. A., Atlanta; Nabors, Dewy T., Atlanta; Nesbit, F. C., Atlanta; McDonald, H. P., Atlanta; Pittman, J. L., Atlanta; Reavis, W. F., Waycross; Reed, Clinton, Atlanta; Righton, H. Y., Savannah; Shaw, L. W., Savannah; Shearouse, Wm., Savannah; Sinkoe, Samuel J., Atlanta; Staton, T. R., Atlanta; Upchurch, Wilborn E., Atlanta; Wheat, R. F., Bainbridge. Seven of the original members are Georgians as follows: Bailey, M. K., Atlanta; Ballenger, Edgar G., Atlanta; Bazemore, W. L., Macon; Boyd, M. L., Atlanta; Brown, S. T., Atlanta; Floyd, Earl, Atlanta; Robertson, J. R., Augusta. The next meeting of the Society will be held in Nashville, Tennessee. Officers elected for the ensuing year were: Edgar G. Ballenger, Atlanta, President; H. W. E. Walther, New Orleans, La., President-Elect; Earl Floyd, Atlanta, Secretary-Treasurer.

Dr. and Mrs. E. H. Lamb, Cornelia, entertained the members of the Habersham County Medical Society in their home on December 20th. The meeting of the society was mostly a business session. Dr. Clara Barrett with the State Board of Health was the only speaker.

The Randolph County Medical Society met at the Patterson Hospital, Cuthbert, on January 3, 1935. Dr. J. O. Baldwin, Fort Gaines, read a scientific paper.

Dr. Champ H. Holmes announces that his practice will be limited to diseases of the chest. Office at 314 Doctors Building, 478 Peachtree Street, N.E., Atlanta.

The Fulton County Medical Society held its thirtieth anniversary meeting at the Piedmont Driving Club, Atlanta, January 3rd. The following officers were installed: Dr. Edgar D. Shanks, President; Dr. Grady E. Clay, President-Elect; Dr. Ed. H. Greene, Chairman of the Board of Trustees; Dr. John F. Denton, Chairman of the Board of Arbiters. Inaugural Address by the President, Dr. E. D. Shanks. Report by Dr. Allen H. Bunce, Chairman of the Committee on the L. C. Fischer Awards were: Dr. Stacy C. Howell award for having the best written paper entitled *Epinephrine—A Drug for Treatment of Glaucoma*; Dr. W. Frank Wells, award for the best original paper entitled *Modern Surgical Advances*. The L. C. Fischer prizes are given annually for the best papers read before the Fulton County Medical Society. Because of their loyalty and work for the medical profession, titles of Honorary Presidents of the Society were conferred upon the following: Doctors R. R. Daly, L. C. Fischer, C. G. Giddings, J. Clarence Johnson and Dunbar Roy.

The Journal of the Medical Association of Georgia has had request for article entitled *Transurethral Resection of the Prostate Gland*, by Dr. E. G. Ballenger, Dr. O. F. Elder and Dr. H. P. McDonald, Atlanta, from the Georges Selzoff, Sao Paulo, Brazil, published in the February, 1934, issue of the Journal.

The Georgia Medical Society, Savannah, met on January 5th. Dr. Robert Drane read a paper entitled *Lymphosarcoma of the Stomach*; discussion was led by Dr. J. K. Quattlebaum and Dr. J. C. Metts. Dr. C. F. Holton reported a case, *Thoracic Aneurysm*.

The staff meeting of the Crawford W. Long Memorial Hospital, Atlanta, was held on January 10th. Dr. W. M. Dunn led the discussion on *Intestinal Obstruction*. Officers were elected for 1935.

The Ware County Medical Society met at Waycross on January 3rd. Dr. G. E. Atwood spoke on *Amebiasis*, the discussion was continued by Dr. A. W. DeLoach, Dr. T. J. Ferrell, Dr. R. L. Johnson, Dr. Kenneth McCullough, and Dr. W. L. Pomeroy. Dr. Albert Fleming, Folkston, will entertain the members of the Society at a shad supper on the first Wednesday evening in February.

The Tattnall County Medical Society met at Reidsville on December 19th. Dr. Cleveland Thompson, Millen, spoke on *Paralysis*. Officers were elected for 1935.

The Thomas County Medical Society met at Thomasville on December 20th. Dr. Rudolph Bell read a paper on *Prostatic Calculi*.

The Annual Clinical Congress of the American College of Surgeons will be held in San Francisco, Calif., October 28-November 1.

Dr. Edgar G. Ballenger, Atlanta, has been appointed a member of the Council of the Southern Medical Association for a term of five years. He succeeds Dr. Frank K. Boland, Atlanta, who served the constitutional limit and was not eligible for reappointment.

The Board of Trustees of the John D. Archbold Memorial Hospital, Thomasville, at its meeting in December, directed that the tour of duty of a special nurse be limited to 8 hours. It was provided that this 8-hour tour of duty might be divided into two periods of 4 hours each, if the patient or the attending physician desired it. This schedule went into effect on January 1st and is to be continued for a period of three months to determine if it is satisfactory. The division of 8-hour duty into two periods of 4 hours each gives a flexibility to the service that it is believed will give a patient any nursing it is thought desirable.

COUNTIES REPORTING FOR 1935

Randolph County Medical Society—100%

The Randolph County Medical Society reports the following officers for 1935:

President—F. S. Rogers, Coleman.
Vice-President—Loren Gary Jr., Shellman.
Secretary-Treasurer—W. G. Elliott, Cuthbert.
Delegate—F. M. Martin, Shellman.
Alternate Delegate—E. C. McCurdy, Shellman.

Habersham County Medical Society—100%

The Habersham County Medical Society reports the following officers for 1935:

President—Fred C. Whelchel, Alto.
Vice-President—T. H. Brabson, Cornelia.
Secretary-Treasurer—O. N. Harden, Cornelia.
Delegate—Kellie N. Joseph, Alto.
Alternate Delegate—M. F. Haygood, Alto.
Censors: W. H. Garrison, M. F. Haygood and R. B. Lamb.

Lowndes County Medical Society

The Lowndes County Medical Society announces the following officers for 1935:

President—E. F. Thompson, Valdosta.
Vice-President—L. R. Hutchinson, Adel.
Secretary-Treasurer—T. C. Williams, Valdosta.
Delegate—R. W. Clements, Adel.

Toombs County Medical Society

The Toombs County Medical Society announces the following officers for 1935:

President—J. E. Mercer, Vidalia.
Secretary-Treasurer—W. W. Odom, Lyons.

Tri Counties Medical Society

(Colhoun, Early and Miller)

The Tri Counties Medical Society announces the following officers for 1935:

President—Holt Darden, Blakely.
Vice-President—W. O. Shepard, Bluffton.
Secretary-Treasurer—J. G. Standifer, Blakely.
Delegate—C. K. Sharp, Arlington.
Alternate Delegate—J. G. Standifer, Blakely.

Tift County Medical Society

The Tift County Medical Society announces the following officers for 1935:

President—Carlton A. Fleming, Tifton.
Secretary-Treasurer—J. D. Mangham, Tifton.

Glynn County Medical Society

The Glynn County Medical Society announces the following officers for 1935:

President—Jno. W. Simmons, Brunswick.
Vice-President—Webb Conn, Brunswick.
Secretary-Treasurer—T. V. Willis, Brunswick.

Ware County Medical Society

The Ware County Medical Society announces the following officers for 1935:

President—W. C. Hafford, Waycross.
Vice-President—R. C. Walker, Waycross.
Secretary-Treasurer—K. McCullough, Waycross.
Delegate—W. F. Reavis, Waycross.
Alternate Delegate—D. M. Bradley, Waycross.

Bibb County Medical Society

The Bibb County Medical Society announces the following officers for 1935:

President—C. Hall Farmer, Macon.
Vice-President—Ernest Corn, Macon.
Secretary-Treasurer—A. P. Evans, Macon.
Librarian—W. E. Mobley, Macon.
Censors—J. D. Applewhite, T. E. Rogers and O. H. Weaver.

Georgia Medical Society

(Chatham County)

The Georgia Medical Society announces the following officers for 1935:

President—M. J. Egan, Savannah.
President-Elect—C. F. Holton, Savannah.
Vice-President—Harry M. Kandel, Savannah.
Secretary-Treasurer—Otto W. Schwalb, Savannah.

Jenkins County Medical Society

The Jenkins County Medical Society announces the following officers for 1935:

President—H. G. Lee, Millen.
Vice-President—Q. A. Mulkey, Millen.
Secretary-Treasurer—C. Thompson, Millen.

Fulton County Medical Society

The Fulton County Medical Society announces the election of the following officers for 1935:

President—Edgar D. Shanks, Atlanta.
President-Elect—Grady E. Clay, Atlanta.
Vice-President—A. O. Linch, Atlanta.
Secretary-Treasurer—M. T. Harrison, Atlanta.
Board of Trustees—Ed. H. Greene, Atlanta, Chairman.

Board of Arbiters—John F. Denton, Atlanta, Chairman.

Emanuel County Medical Society

The Emanuel County Medical Society reports the following officers for 1935:

President—C. E. Powell, Swainsboro.
Vice-President—W. H. Lucas, Stillmore.
Secretary-Treasurer—R. C. Franklin, Swainsboro.
Delegate—W. H. Lucas, Stillmore.
Alternate Delegate—R. C. Franklin, Swainsboro.
Censors—S. S. Youmans, R. C. Franklin and D. D. Smith.

Monroe County Medical Society

The Monroe County Medical Society announces the following officers for 1935:

President—W. J. Smith, Juliette.
Vice-President—J. O. Elrod, Forsyth.
Secretary-Treasurer—G. H. Alexander, Forsyth.

Taliaferro County Medical Society

The Taliaferro County Medical Society announces the following officers for 1935:

President—Jno. A. Rhodes, Crawfordville.

Secretary-Treasurer—T. C. Nash, Philomath.

Whitfield County Medical Society

The Whitfield County Medical Society announces the following officers for 1935:

President—E. O. Shellhorse, Dalton.

Vice-President—D. L. Wood, Dalton.

Secretary-Treasurer—H. J. Ault, Dalton.

Delegate—G. L. Broaddrick, Dalton.

Censors—Frank B. Easley, J. H. Steed and H. L. Sams.

Tattnall County Medical Society

The Tattnall County Medical Society announces the following officers for 1935:

President—J. C. Collins, Collins.

Secretary-Treasurer—J. M. Hughes, Glennville.

Delegate—L. V. Strickland, Cobbtown.

Thomas County Medical Society

The Thomas County Medical Society announces the following officers for 1935:

President—E. F. Wahl, Thomasville.

Vice-President—Harry Ainsworth, Thomasville.

Secretary-Treasurer—Rudolph Bell, Thomasville.

OBITUARY

Dr. Charles Lee Bond, Hartsfield. Georgia College Eclectic Medicine and Surgery, Atlanta, 1890; aged 68; died at Murphy Station on November 24, 1934. He had been sick for several months. Dr. Bond moved from Dalton to Hartsfield thirty-two years ago and practiced medicine there until recently. He was held in high esteem by many acquaintances. Surviving him is his widow. Funeral services were conducted from the Murphy Methodist church by Rev. Sutton. Burial was in Deep Springs cemetery, near Dalton.

Dr. Frederick Green Barfield, Jacksonville, Florida. Member; University of Virginia Department of Medicine, Charlottesville, Va., 1897; aged 61; died at his home at 1840 Seminole Road on December 25, 1934. He was born and reared at Cuthbert, Ga. Before graduating in medicine, he taught school at Bethel college for a number of years. Dr. Barfield practiced medicine in Randolph county until he retired and moved to Jacksonville, Fla. He had many warm friends in southwest Georgia. Surviving him are his widow and one son, Billie Barfield.

Dr. Alvin Barney Eberhart, McDonough. Member; Emory University School of Medicine, Emory University, 1922; aged 44 years; died after a few days' illness at his home on January 4, 1935. He was a native of Maysville. Received his collegiate education at Mercer University, Macon, served in the United

States Army during the World War. After the war, Dr. Eberhart began the study of medicine at Emory University. After he graduated in medicine, he served as intern at the Macon Hospital, then practiced medicine in Henry and adjacent counties until his death. Dr. Eberhart was a successful practitioner and was held in high esteem by his many acquaintances. Surviving him are his widow and one son. Funeral services were conducted by Rev. George Hulme, Pastor of the First Baptist church at Monroe, from the Sardis Baptist church. Burial was in the churchyard.

Dr. Edmund T. May, Warthen. University of Maryland School of Medicine and College of Physicians and Surgeons, Baltimore, 1885; aged 73; died at his home on December 13, 1934. He practiced medicine for more than a quarter of a century when he retired from practice to devote his time to farming. Dr. May was the owner of large tracts of land. He is survived by his widow. Funeral services were conducted by Rev. Branch and Rev. Mincey from the residence. Interment was in the family cemetery.

Dr. Alfred S. Oliver, St. Marys. Louisville Medical College, Louisville, Ky., 1879; aged 77; died at his home on December 24, 1934. He was born and reared in Elbert county. He was a descendant of Dyonsius Oliver, who moved to Elbert county from Virginia before the Revolutionary War. Dr. Oliver was a successful practicing physician and prominent in civic and fraternal organizations. Surviving him are two daughters, Misses Eleanor and Maude Oliver; two sons, Dr. A. S. Oliver, Jr., Imola, Cal., and Stanley M. Oliver of Atlanta and Elberton. Funeral services were conducted from the home by Rev. H. L. Byrd. Burial was in the Elmhurst cemetery.

DR. OSCAR FREDERICK COLLUM

1878-1934

Resolutions

In the passing of Doctor Oscar Frederick Collum, we, the Telfair County Medical Society, feel that we have lost one of our most energetic and loyal members, as well as a very capable executive.

Dr. Collum was born in Batesburg, S. C., and moved to our county in early childhood. After graduating from the Houston High School he entered the Atlanta School of Medicine, from which he graduated with honors in 1907. Taking up the practice of his profession at Chauncey, Georgia, in Dodge County, he enjoyed a lucrative practice until 1932, at which time he moved to McRae, Georgia. He was happiest when rendering service to children, and had taken several courses in diseases of children at the New York Post Graduate Hospital, as well as attending the Southern Pediatric Seminar lectures yearly at Saluda, N. C.

Dr. Collum was a very able physician, genteel, kind and reserved in manner, and always ready to give council when called upon. He realized his responsibili-

ties to his patients and gave them his best and first consideration. This, no doubt, was partly responsible for his early death. He was a Baptist in faith and contributed freely to his church, and was also a member of the Arabi Temple of the Shrine at Macon, Ga.

There are thousands who will miss his able counsel as well as his affable, congenial and cheerful association. To his family, we, the Telfair County Medical Society, wish to express our heartfelt sympathy. Next to you, we will miss him most.

Therefore, be it resolved:

1. That the Telfair County Medical Society has lost one of its most devoted and loved members.

2. That a copy of these resolutions be placed in the minutes of the Telfair County Medical Society, the Journal of the Medical Association of Georgia, and a copy sent to his family.

F. R. MANN, M.D., Chairman

W. H. BORN, M.D.

FOSTER P. HARBIN, M.D.

Committee, Telfair County Medical Society.

BOOKS RECEIVED

The Heart Visible—A Clinical Study in Cardiovascular Roentgenology in Health and Disease. By J. Polevski, M.D., Attending Physician and Cardiologist Newark Beth Israel Hospital. Contains 207 pages, with many illustrations. Publishers: F. A. Davis Company, 1914-1916 Cherry Street, Philadelphia, Pa.

Sculpture in the Living—Rebuilding the Face and Form by Plastic Surgery. By Jacques W. Maliniak, M.D., Formerly Major, Reconstructive Hospitals, Allied Armies; Attending Plastic and Reconstructive Surgeon at Sydenham Hospital, New York City; St. Peter's Hospital, New Brunswick, N. J.; Beth Israel Hospital, Newark, New Jersey. Foreword by Wendel C. Phillips, M.D., Former President, American Medical Association. Publishers: The Lancet Press, 80 Lafayette Street, New York City. Price \$3.00.

Treatment By Diet. By Clifford J. Barborka, M.D., Department of Medicine, Northwestern University Medical School, Chicago; Formerly Consulting Physician, the Mayo Clinic, Rochester, Minn. Illustrated. Publishers: J. B. Lippincott Company, Philadelphia, Pennsylvania.

Surgical Applied Anatomy. By Sir Frederick Treves, Bart., Ninth Edition, Revised by C. C. Choyce, M.D., Professor of Surgery, University of London; Director of Surgical Unit, University College Hospital Medical School; Surgeon to University College Hospital; Consulting Surgeon to the Seaman's Hospital, Greenwich. Illustrated with 174 figures, including 66 in color. Publishers: Lea & Febiger, Washington Square, Philadelphia, Pa. Price \$4.00.

Body Mechanics in the Study and Treatment of Disease. By Joel E. Goldthwait, M.D., Member of

Board of Consultants, Massachusetts General Hospital; Ex-President of American Orthopedic Association; Organizer and First Chief of Orthopedic Service, Massachusetts General Hospital; Lloyd T. Brown, M.D., Instructor Orthopedic Surgery, Harvard Medical School; Loring T. Swaim, M.D., Instructor Orthopedic Surgery, Harvard Medical School; John G. Kuhns, M.D., Assistant in Orthopedic Surgery, Harvard Medical School. Contains 281 pages with 99 illustrations. Publishers: J. B. Lippincott Company, East Washington Square, Philadelphia, Pa. Price \$4.00.

BOOK REVIEW

Practical Talks on Heart Disease. By Dr. George L. Carlisle, Associate Professor of Clinical Medicine, Baylor University, Dallas, Texas. Published by Charles C. Thomas, Baltimore, Maryland. Pages, 153. Price \$2.00.

As mentioned in the preface many physicians well qualified in the practice of medicine hesitate to give a definite opinion on heart disease. It is the contention of the author that ninety per cent of abnormal hearts can be diagnosed and treated successfully by the general practitioner without the aid of instruments of precision.

This book is written to aid in the simplification of heart disease and in the interpretation of the history and physical examination. The contents are divided into chronic heart disease, acute heart disease, irregularities of the heart, heart pain, special types of heart disease and a chapter on history taking and physical examination of the heart.

The subject matter is modern and the conclusions are sound. The book is not a reference book but a hand book so only the most common symptoms and signs of cardiac disease are discussed.

The chapter on cardiac neurosis is particularly well developed and should be read by all interested in cardiology.

EVERT A. BANCKER, JR., M.D.

HOSPITALIZATION OF THE MENTALLY ILL

Members of the House of Delegates and others have been solicited by Dr. John M. Grimes to purchase a book that he has printed purporting to contain the results of the study recently made by the Council on Medical Education and Hospitals of the hospitalization of the mentally ill in the United States. Such individual use of the Council's material is, of course, wholly unauthorized. A report prepared by Dr. Grimes when he was employed by the Association was not published because, in the opinion of the Council and an advisory committee of psychiatrists and neurologists, his conclusions were not supported by the evidence presented. Two partial reports that have already been published will be supplemented when further studies have been completed.

Reprinted from The Journal of the American Medical Association, November 10, 1934, Vol. 103, p. 1457.

COMMUNICATIONS

VENEREAL DISEASE INFORMATION

To The Editor:

About a year ago you were requested to bring to the attention of the members of your medical society a monthly publication of the Public Health Service known as "Venereal Disease Information." We are sure that both you and the members of your society are greatly interested in the program for the control of syphilis and gonorrhea. These two diseases are among the most prevalent of all communicable diseases, and it is essential that health authorities have the active assistance and support of all of the physicians of the country. With this idea in mind, it is desired to request that you again bring to the attention of the physicians of your society the easy method which "Venereal Disease Information" provides them in keeping abreast of modern advances in venereal disease work.

In the editing of "Venereal Disease Information" every effort is exerted to make it easily readable and the abstracts sufficiently brief so that the physician doing private practice will find time to use it. It is primarily an abstract journal containing the summaries of articles on the venereal diseases which appear in 350 of the medical journals of the world. The subscription price is extremely nominal, being only fifty cents per annum, payable by check, money order, or cash (but not stamps), to the Superintendent of Documents, Government Printing Office, Washington, D. C. Should you find it more convenient, however, to take subscriptions at your next meeting, the names and addresses of each member who desires to subscribe may be listed upon the attached form and these, together with fifty cents for each annual subscription, inclosed in the accompanying self addressed envelope.

The cooperation of you and your members in this important matter will be greatly appreciated and your action a direct contribution to the campaign now being waged against these diseases.

By direction of the Surgeon General.

JOHN MCMULLEN,
Assistant Surgeon General.
Division of Venereal Diseases.

Public Health Service,
Treasury Department,
Washington, D. C.

SCREW WORM INFECTION

To the Editor:

It is reported by the State Department of Entomology that screw worm infection among animals now exists in 125 Georgia counties. From a tier of counties in South Georgia in 1933 the disease has spread to such an extent that it is now state-wide in scope.

In 1933 four human cases of screw worm infection were reported from areas where the infection existed in animals. This year nine cases have occurred and over a much more extended area. Three recent deaths have been reported from this disease in Savannah, Macon, and Peach County.

Because of the fact that screw worm infection is a new disease in Georgia and hence not listed as a reportable disease on the weekly morbidity cards sent to your office, would you kindly fill out the form below, if you have treated any cases of screw worm infection in your practice. This information will give us some idea of the spread of this disease.

T. F. ABERCROMBIE, M.D.,
Director, Department of Health.

State Capitol,
Atlanta, Georgia,
November 27, 1934.

WAYNE COUNTY MEDICAL SOCIETY
INDUSTRIALISTS AND EMPLOYERS

To the Editor:

We enclose herewith copy of letter sent by the Wayne County Medical Society to 1200 Detroit industrialists and employers, each of whom has 50 or more employees. This letter informs the employer of attempts of certain groups to socialize medicine.

Propaganda and copies of a proposed health insurance bill had previously been sent to most of the leading industrialists of Detroit and throughout the nation by the "American Association for Social Security." Our letter tries to suggest to industrialists that they look to the medical society for advice regarding all medical questions. This desirable result has been obtained since our letters were sent out.

All contacts made with industrialists as a result of our form letter are used to publicize the "Wayne County Medical Society Bureau," which was set up February 16, 1934, to bring complete medical and hospital care to employed persons of modest means. This Bureau has proved to be a demonstration in cooperation between physicians, dentists, nurses, pharmacists, and hospitals of Detroit and Wayne County. If you are interested, further particulars on the Bureau will be gladly mailed to you.

With your permission, we wish to advise you from time to time concerning the activities of our county society, with a view to receiving from you helpful suggestions, criticisms, and an exchange of ideas for our improvement in Detroit.

WM. J. CASSIDY, M.D., President.

By direction of The Council,
Wayne County Medical Society.
Detroit, Mich.
December 15, 1934.

* * *

COPY OF LETTER

We wish to call your attention to certain efforts which are being made to socialize the practice of medicine. Should these efforts meet with success, the first stake in the claim towards general socialization will have been driven!

The first of these efforts is being made through the Columbia Broadcasting Company which is donating fifteen minutes of its time each week to the "National Advisory Council on Radio in Education, Inc." which sponsors Monday evening presentations over

sixty-one (61) stations, 10:30 to 10:45 p.m. dealing with the socialization of medicine.

The second effort is sponsored by "The American Association for Social Security, Inc." which has ready a proposed health insurance bill for introduction in each of the state legislatures. Among the officers of this organization are Mr. Abraham Epstein, Executive Secretary, with I. M. Rubinow, Glenn Frank, John A. Lapp, Herbert S. Bigelow, and other vice-presidents. This proposed law would establish a state health insurance commission and build up a state health insurance fund from three sources: '1½ per cent of employers' payrolls, paid by the employer; 3 per cent of wages of employees (deducted by employers and transmitted to the state fund); and 1½ per cent of the total payroll of employers appropriated from tax funds. This proposal seeks to combine cash benefits with medical, hospital, dental, and maternity benefits. All these schemes end in the employer paying a large share, both directly and as a heavy taxpayer. This is the experience in European countries—a matter of record.

Business men and industrialists should be the last persons to promote socialization of business and industry in America. History has shown that the entering wedge towards general socialization can be through medicine!

We wish to inform you of these undertakings and activities in case you are not already aware of them. May we suggest that you use your influence: 1. With the Columbia Broadcasting Company to thwart the movement of a so-called educational group which is spreading propaganda for the creation of an expensive bureaucracy; 2. To urge your legislators to stop the disrupting activities of the "American Association for Social Security" which is lobbying to promote socialization schemes.

Please call upon the Wayne County Medical Society, Detroit (Temple 1-6400) whenever it can be of use to you.

WM. J. BURNS,
Executive Secretary.

SUMMER ROUND-UP OF CHILDREN

To the Editor:

For approximately six years the American Medical Association has been cooperating with the National Congress of Parents and Teachers in the Summer Round-Up of the Children. This cooperation has been expressed through the presence of a representative of the American Medical Association on the National Advisory Committee for the Summer Round-Up. The Director of the Bureau of Health and Public Instruction has been that representative. The Board of Trustees of the American Medical Association has annually presented a gift to the National Congress of Parents and Teachers through *Hygeia*, of one-half the annual supply of examination blanks for the Summer Round-Up.

As you are undoubtedly aware, many county medical societies have participated in the Summer Round-

Up by helping in physical examinations of pre-school children.

There has been evident in the National Advisory Committee a great desire to improve the Summer Round-Up by working away from the established method of group clinics toward examinations in the privacy of the office of the family physician. This is expressed as a policy for the first time in the enclosed leaflets which are sent for your information. Your attention is called particularly to the passages marked in red.

In view of the fact that the writer of this letter is the present representative on the National Advisory Committee, any suggestions which may come from your association will be gratefully received, and in view of the cooperative spirit which is being shown by the officials of the Summer Round-Up I feel sure that they will be glad to have suggestions from the medical profession.

W. W. BAUER, M.D., *Director,*
Bureau of Health and Public Instruction,
American Medical Association.

Chicago, Ill.

December 14, 1934.

VITAMIN A AWARD

To the Editor:

On January 30, 1932, Mead Johnson & Company offered an award for research work on the clinical value of Vitamin A. Subsequently the award was extended to include certain laboratory phases of Vitamin A research.

To be eligible for the award papers (by residents of the United States and Canada) must be *accepted* for publication on or before December 31, 1934.

In order to bring to the attention of the Judges *all* eligible papers, I must request your cooperation. I shall appreciate it very much if you will notify me of all papers dealing with Vitamin A, carotene or related subjects, *accepted for publication* in your Journal on or before December 31, 1934, but not published by that date. If you will give me the name of the author, and the title of the article, I shall be in a position to request an abstract or a MMS copy from the individual concerned, in order that the work be submitted to the Judges.

If you have accepted no such manuscripts I shall also appreciate a note to that effect.

MEAD JOHNSON VITAMIN A AWARD.
Evansville, Ind.
December 18, 1934.

CONTRIBUTIONS TO SUCCESS

To the Editor:

Business may be business all through the year but at this season every business concern can well afford to pause and take stock of the multitude of outside services that have contributed to the successful fulfillment of its plans and ambitions.

In looking over our accomplishments for the year just closing we are reminded of our dependence on the

large number of individuals and organizations who have co-operated with us in supplying a great variety of materials and service, that, in turn, have assisted us in keeping faith with those whom we serve. This thought may not be particularly informative but it will serve its purpose if it reminds you of our sincere appreciation of the efficient cooperation accorded us and our hope for a continuance of our pleasant relationship.

ELI LILLY AND COMPANY.

Indianapolis, Ind.
December 20, 1934.

INDIANA STATE MEDICAL ASSOCIATION
INDIANAPOLIS, INDIANA

January 10, 1935.

TO: Secretaries of State Medical Societies.

Olin West, M.D., Secretary, American Medical Association.

FROM: Bureau of Publicity, Indiana State Medical Association, 1021 Hume Mansur Building, Indianapolis, Indiana.

SUBJECT: *Rules and Regulations in Regard to Publicity.*

The Bureau of Publicity of the Indiana State Medical Association notes the increasing inclination of members of the profession to have their names appear in the press and announced over the radio. The Bureau feels that certain rules and regulations which would determine for the man in private practice the correct and the incorrect manner in which his name might appear in the public press and be announced over the radio should be formulated as an aid in interpreting the Principles of Medical Ethics.

The Bureau would be pleased to know if your state has rules and regulations covering this subject and it would be pleased to receive any such rules and regulations.

Bureau of Publicity,
W. N. WISHARD, M.D., *Chairman.*
E. D. CLARK, M.D.
J. H. STYGALL, M.D.
THOMAS A. HENDRICKS,
Executive Secretary.

P.S.—Enclosed are suggestions which the Bureau makes to speakers who are assigned to make talks for the Bureau before lay audiences and also the rule adopted by the Bureau in regard to radio broadcasting.

SUGGESTIONS FOR SPEAKERS

By

Bureau of Publicity

Indiana State Medical Association

The following suggestions are offered, not because we feel that any particular man needs them, but because many pitfalls exist into which the physician is sometimes drawn in his relations with the public.

1. The use of scientific terms should be avoided when speaking to a lay audience.
2. Do not talk over 30 minutes, unless urged to do so.

3. Please keep closely to your subject.
4. Put pep into your talk and speak loud enough for all to hear.
5. Speakers should arrive at least a few moments before the hour announced.
6. It is suggested that speakers endeavor to present the composite view of the profession in their addresses to the public.
7. It is advisable to avoid citation of personal case reports.
8. Please aid the Bureau of Publicity in its efforts to make all presentation of its work as impersonal as possible.

Broadcasting Rule

The Bureau has adopted a rule that no physician who is in private practice should have his name mentioned over the radio in connection with the Bureau of Publicity broadcasts, but the names of physicians holding public office and connected with public institutions may be mentioned over the radio, if they are not in private practice.

FAKE—"SYNDICATE OF DOCTORS"

Louisville, Georgia,
January 9, 1935.

Dear Dr. Bunce:

Since you are Secretary-Treasurer of the State Medical Association of Georgia, I am appending below copy of letter I received today:

"Louisville, Ga.
"January 7, 1935.

"Dr. Newsom,
"Dear Sir:

"Writing you in regard to a woman who called in here on January 3rd, claimed to be a syndicate of doctors with state license, headquarters at Albany, Ga. Said you had directed her to several cases in this county and was well acquainted with her work. I am enclosing her address, please return it as I would like to keep it. Any information regarding the matter will be highly appreciated. addressed envelope (stamped) enclosed. If you will let me know any day you are in Louisville will meet you there and talk it over."

(Signed) W. J. MOXLEY.

The slip bearing address reads:

"Mrs. Mary Ilers, Albany.
Sendcade of Doctors."

I suppose she singled me out because I own farming land near Louisville and therefore am known there, yet am not there so often that people would ask me about her. Had I used the spelling employed in the original of above letter you would have had difficulty in interpreting it—so evidently she is working among those that are not well educated. I never heard of this woman and revolt at the idea that she is quoting me as one who is sponsoring her work.

I am sending this information so that you can assist in curbing her.

N. J. NEWSOM, M.D.

Sandersville, Ga.

SALES SWINDLER

To the Editor:

It has been called to my attention that a man giving the name of G. E. Ford, and supposed to be representing the concern, Maid-Rite Uniform Company of Cincinnati, was in Thomasville on or about December 11, 1934, taking cash orders from doctors and their assistants. Several office girls in Thomasville paid money for office uniforms and got receipts for same, but as yet they have not received their uniforms. On writing to the company, giving the street address on the receipt, the letter was returned unopened with notation on the envelope "Company not known."

The man representing the company is about 35 years of age, fair complexion, blue eyes, blond hair and weighs about 130 pounds. He has not been in Thomasville within the past few weeks.

I send you this information so that you may put other doctors and their assistants wise to the scheme of the man giving his name as C. E. Ford.

RUDOLPH BELL, M.D.,

Secretary-Treasurer,

Thomas County Medical Society.

Thomasville, Georgia
January 11, 1935.

VAN METER PRIZE AWARD
AMERICAN ASSOCIATION FOR THE
STUDY OF GOITER

To The Editor:

The American Association for the Study of Goiter again offers the Van Meter Prize Award of \$300 and two honorable mentions for the best essays on the subject of goiter provided they meet the standards of the award committee. The essays should be based on original research work on the subject of goiter, preferably its basic cause. The prize essay or its abridgement is to be presented at the annual meeting of the Association to be held in Salt Lake City, Utah, in June, 1935.

Competing manuscripts should be in the hands of the Corresponding Secretary, W. Blair Mosser, M.D., Kane, Pa., not later than April 1st, 1935.

The first prize of \$300 for the 1934 meeting was awarded to M. A. B. Brazier, Ph.D., B. Sc., London, England, for her essay *The Impedance Angle Test for Thyrotoxicosis*.

First honorable mention was awarded Prof. Ugo Cerletti, Genoa, Italy, for his essay *Three Years of Experimental Research in the Etiology of Endemic Goitre*.

Second honorable mention was awarded D. Roy McCullagh, M.D., Cleveland Clinic, Cleveland, Ohio, for his essay *Studies in Blood Iodine Using a New Chemical Method*.

W. BLAIR MOSSER, M.D.

Corresponding Secretary.

Kane, Pennsylvania
November 1, 1934.

HYPODERMIC TABLETS MANUFACTURED
BY ELI LILLY AND COMPANY

Rapid solubility, sterility, and accuracy of grainage characterize the hypodermic tablets manufactured by Eli Lilly and Company, Indianapolis. For more than thirty years, Lilly Hypodermic Tablets have been used with satisfaction by physicians, and the line is said to meet all requirements for successful and safe hypodermic medication.

The extraordinary solubility, strikingly characteristic of all Lilly Hypodermic Tablets, is achieved through the use of a special milk sugar, recrystallized and purified in the Lilly Laboratories. Accurate tests insure the therapeutic activity of all materials used in the manufacture of these delicate products; production standards are exacting. Uniformity of action is assured through rigid control of potency. Every precaution is observed and all manufacturing processes are carried out under aseptic conditions.

The Lilly Line of hypodermic tablets is comprehensive, quickly available everywhere through the drug trade.

INFLUENCE OF HYGROSCOPIC AGENTS ON
IRRITATION FROM CIGARETTE SMOKE

Michael G. Mulinos and Raymond L. Osborne. *Pharmacology of Inflammation: III. Influence of Hygroscopic Agents on Irritation from Cigarette Smoke*. Proc. Soc. Exp. Biol. & Med., 1934, 32, 241-245. A successful attempt to measure objectively the irritant properties in cigarette smoke is reported. The method used was that described by Hirschhorn and Mulinos; Proc. Soc. Exp. Biol. & Med., 1930, 28, 168. A study of the influence of hygroscopic agents on the edema produced on the conjunctiva of rabbits is given. The hygroscopic agents most commonly used in cigarettes are glycerine and diethylene glycol. It was stated that, "It is obvious that the cigarettes which have been made with diethylene glycol as hygroscopic agent prove to be less irritating than those with no hygroscopic agent, and much less irritating than those with glycerine." Not only was the irritation greater in the case of glycerine than from diethylene glycol, but it lasted a longer time. It is further stated that, "The edema produced by the smoke solution from the untreated cigarette lasted an average of 31 minutes (8-82); that from the diethylene glycol lasted 8 minutes (0-21); and that with the glycerine lasted 45 minutes (17-122).

INTERN WANTED

Wanted—Intern for small Hospital and to assist in practice. Excellent opportunity for a capable man. Maintenance with salary. "A"—Care of Journal.

USED HOSPITAL EQUIPMENT
WANTED

Wanted—Used hospital equipment, particular beds. "A"—Care of Journal.

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SYMPOSIUM ON GALLBLADDER DISEASE

Drs. Watt, Grove, Read, and Bell

CHOLECYSTITIS—AN ANALYSIS OF ONE HUNDRED CASES*

CHAS. H. WATT, M.D.
Thomasville

It is with considerable hesitancy that I attempt to discuss before you the time worn subject of gallbladder disease because I fully realize that many of you here are far more capable of dealing with this subject than I. Many of you are associated with the larger hospitals of the State and have ready access to a greater wealth of material than those of us practicing in smaller communities. However, I feel that there are certain advantages acquired through service in these latter communities that are necessarily lacking in the larger ones. For instance, as many of our patients live near by, they are frequently seen in everyday life and return often for check up. In the cities this is not so easily done because of greater distances and inconvenience in reaching the doctor. Hence, where we in the smaller communities are able to ascertain results through personal interviews, those in the larger communities must depend, at least to a large extent, upon questionnaires.

In this presentation I have attempted to summarize the end results in one hundred patients having gallbladder disease operated upon at the John D. Archbold Memorial Hospital. The end results were determined by the patients themselves and the information was obtained through personal interviews and questionnaires when necessary.

The purpose of this analysis was to see if it would aid us in advising those suffering from gallbladder disease just what they

might expect from surgery, based on intimate knowledge of the results in this series. Undoubtedly this analysis will benefit me more than any one of my hearers.

Can the patient with a non-functioning gallbladder in which no stones are suspected or demonstrated expect the same relief from surgery as the patient with a troublesome gallbladder containing stones? Can the patient with a prolonged history of repeated attacks of gallstone colic expect as complete relief as the patient who is operated upon early in the disease? These and many others are questions that must often be answered by the physician as well as the surgeon. There are no stereotyped answers perhaps, but I believe that by a careful analysis of the various types one can more accurately predict the end result.

According to Fowler¹, eighty out of every one hundred cases of gallbladder disease presenting symptoms either become quiescent or present such mild symptoms that they do not interfere with the patient's daily routine. The remaining 20 per cent must seek some form of treatment to obtain relief. What have we to offer? I think this will depend upon the type of cholecystopathy of the individual patient.

In this series of one hundred cases, the end results were determined in eighty-six. Ninety-seven patients were white and three were colored. It is difficult to account for this paucity of gallbladder disease among the colored race in our community where the population is about evenly divided and hospital admissions show 20 per cent colored. Perhaps members of this race are more stoical than the white or less willing to submit to operation for attacks of pain they have learned from experience usually subside without leaving evident damage. This analysis

*Read before the Medical Association of Georgia, Augusta, May 10, 1934.

rather suggests such an explanation, for two of the three patients in this series were operated upon during acute attacks.

Of the ninety-seven white patients, seventy-three were females and twenty-four were males, showing thus the usual preponderance of this disease in the female. Of the three colored patients, there were two females and one male, making exactly 75 per cent females and 25 per cent males. The youngest patient was 22 and the oldest 76 years of age. The majority, or 63 per cent, fell in the age group of forty to sixty years.

In trying to arrive at some definite conclusions, I have divided these cases into three classes: first, chronic cholecystitis with calculi; second, chronic cholecystitis without calculi; and third, acute cholecystitis with and without calculi.

Clinical experience and mental notes had led me to feel that surgery in those cases of gallbladder disease in which there were no calculi frequently led to disappointing results, whereas good results usually followed cholecystectomies when calculi were present in the gallbladder. Many observers have failed to separate the cases of chronic cholecystopathies in this way; to me it is a great help.

Class 1.—Chronic Cholecystitis with Calculi in the Gallbladder Only. In this class there were fifty-five cases and of this number the end results were determined in forty-five. Of this forty-five there were thirty-nine cholecystectomies. Twenty-three of these consider themselves cured; thirteen are greatly improved while three are no better. There were no deaths. Six cases had cholecystotomies with removal of the stones. One of these is cured, three are improved and two died. One death occurred four months after operation and was due to associated carcinoma of the pancreas. The other was a woman of 76 who died suddenly three weeks after operation while in a wheel chair.

A summary of this class then shows satisfactory results in 89 per cent of these cases with a negligible death rate, as I do not think the case of cancer should be included.

It is interesting to note here that the three cases of cholecystectomy reporting no improvement were all comparatively young, being 22, 32, and 34 years of age. None had had symptoms for more than two years. Ordinarily one would expect prompt relief in such cases. They are classed as unimproved on their own statement, but with the cause of colicky attacks removed it is difficult to give credence to their opinion. On the other hand, the best results were often obtained

in elderly people with a history of definite attacks over a period of ten to twenty years.

Class 2.—Chronic Cholecystitis Without Calculi. In this class there were twenty-one cases and the end results in seventeen are here reported. These seventeen all had cholecystectomies. Of this number, four are cured, eight improved, four unimproved and one died.

Summary of this class shows satisfactory results in 70 per cent and unsatisfactory results in 30 per cent of the cases.

Classes 1 and 2 may be termed cases of selective gallbladder surgery and together they show satisfactory results in 85 per cent, unsatisfactory results in about 12 per cent and a 3 per cent mortality. This mortality rate is perhaps about 1 per cent higher than one finds in a larger series of cases.

Class 3.—Acute Cholecystitis With and Without Calculi. In this class the acuteness of the disease is the essential feature that determines the course of treatment and not the presence or absence of calculi. I believe everyone agrees that acute cholecystitis failing to subside promptly is a surgical problem. The time for surgical interference, however, is still a moot question.

In this class there were twenty-four cases and in all of these the end results were recorded. There were twenty-two cholecystectomies and two cholecystostomies. The two cholecystostomy patients consider themselves cured along with fourteen of the cholecystectomies, making a total of sixteen cured. Two were improved and six died.

A summary of Class 3, therefore, shows satisfactory results in 75 per cent of the cases with a mortality rate of 25 per cent. This mortality rate no doubt seems high but when one considers that this class includes all types of acute cholecystitis in which some were gangrenous and one had perforated, I think it compares favorably with others. Fowler reports 10.3 per cent mortality in 545 cases of acute cholecystitis while Vest² in reporting a collected series of eighty cases of gangrene of the gallbladder finds a mortality rate of 28.7 per cent.

Blackford, King and Sherwood³ have reported one of the few recorded follow up series of cholecystopathies treated medically. These observers reported the results of 200 cases of gallbladder disease who had tried medical management over an average of nine and a half years. All of these cases were suitable for elective gallbladder surgery. This study showed that 37 per cent of the patients were completely relieved, 21 per cent sought surgical relief while thirty, or 15 per cent, had died. However, only two out of this thirty, or 1 per cent of the entire series of 200 cases, died of gallbladder disease. These writers state that this mortality rate is lower than in the best elective gallbladder

surgery. They figure it to be 1 per cent. However, it should be figured as 6.6 per cent; that is, one gallbladder death out of each fifteen. Correct mortality statistics cannot be determined as long as some of these patients are alive with diseased gallbladders. Six and two-thirds per cent mortality would be very high for elective gallbladder surgery.

These writers also state that 40 per cent of the gallbladders removed in their clinic contained calculi. In our series 72 per cent, including acute and chronic cases, contained calculi. Our series shows the best results were obtained in the class in which stones were present; therefore, if 60 per cent of the gallbladders removed did not contain stones it is natural to assume that the end results would be rather discouraging and would make one hesitate to recommend other than medical management to a gallbladder patient.

It is difficult to compare medical and surgical mortality. A much fairer comparison would be that of morbidity. It would be interesting to compare the efficiency of a given number of gallbladder patients treated medically with a like number treated surgically over a period of years. I believe the surgical patient would put in the greater number of work-hours. Such a study may have been made but not to my knowledge.

On the basis of this analysis, what then can we offer our patients who are suffering from cholecystitis?

If the patient falls into Class 1, that is, an uncomplicated case of chronic cholecystitis with stones only in the gallbladder, the chance of complete recovery is 60 per cent, of being greatly improved is 90 per cent, with only a 6.6 per cent chance of receiving no benefit and a 2 to 3 per cent chance of the operation proving fatal.

If, however, the patient should fall in Class 2; that is, chronic cholecystitis without stones, the chance of complete relief is only 23.5 per cent with a 70 per cent chance of improvement, a 23.5 per cent chance of receiving no benefit whatever and a 2 to 3 per cent chance of the operation proving fatal.

If the patient belongs in Class No. 3, that is, all types of acute cholecystitis (including

gangrenous and ruptured gallbladders), then the chance of complete relief is greater than in either of the other two, namely, 66.6 per cent with only an 8.6 per cent chance of being simply improved but with a 25 per cent chance of the operation proving fatal.

Summary

1. One hundred cases of gallbladder disease operated upon at the John D. Archbold Memorial Hospital were reviewed. The end results were determined in eighty-six.
2. Seventy-two per cent of the cases operated upon had stones in the gallbladder.
3. The end results were definitely better in those cases in which calculi were present.

REFERENCES

1. Fowler, Russell A.: *Am. J. Surg.* Oct. 1933, p. 53.
2. Vest, Samuel A., Jr.: *Internal S. Digest* Vol. 15 (March) 1933.
3. Blackford, J. M.; King, R. L. and Sherwood, K. K.: *J. A. M. A.* 101:910 (Sept. 16) 1933.

STUDIES IN BILIARY TRACT DISEASE

I. S. Ravdin, Cecilia Riegel, C. G. Johnston and P. J. Morrison, Philadelphia (*Journal A. M. A.*, Nov. 17, 1934), present data showing certain changes that occur in the chemistry of the bile in various surgical lesions of the biliary tract. These data demonstrate the direction of the changes from the normal chemistry of the bile which take place when either the liver or the gallbladder is damaged. With increasing evidence of disease of the gallbladder wall there is in general a greater change in the chemical constitution of gallbladder bile from the normal. Evidence is presented in relation to the bile salt-cholesterol ratio which the authors believe, demonstrates that while a change in this ratio may be a factor in gallstone formation it is not the sole etiologic factor. The changes that normally take place in hepatic bile once it enters the gallbladder are considerable. They subscribe to the concept that in man the gallbladder plays an important part in physiologic economy and should not be removed without definite evidence that its function is impaired. When the liver becomes damaged either by infection or by obstruction of the extrahepatic bile ducts, profound changes occur in the chemical composition of hepatic bile. Surgical drainage of the common duct is very often not continued until the composition of the hepatic bile returns to anywhere near normal values. Of major importance when the hepatic bile is being drained exteriorly is the consideration of the extrahepatic functions of the bile. The authors believe that the daily feeding of bile to such patients aids materially in the rapidity with which convalescence may take place and in the prevention of asthenia in the patient whose hepatic bile is being drained over long periods.

INDICATIONS FOR SURGERY IN GALLBLADDER DISEASE

*Report of Eighty-Four Consecutive
Operative Cases*

LON GROVE, M.D.

JOSEPH C. READ, M.D.

Atlanta

The discussion of cholecystectomy versus cholecystostomy was part of the program of practically every medical meeting for many years. Fortunately this has been settled, and the operative procedures for various gallbladder conditions have been fairly well standardized. The indications for operation in certain types of gallbladder disease, however, are still subjects for arguments, and it is in an effort to clarify these discussions that we bring it before this meeting. In any discussion of the treatment of gallbladder disease, it seems that a proper classification is desirable. Therefore, we wish to discuss the subject under four headings: acute cholecystitis with or without stones; chronic cholecystitis without stones; chronic cholecystitis with stones and chronic cholecystitis with common duct involvement.

The first group, acute cholecystitis with or without stones, fortunately gives rise to little discussion. The only issue is one of judgment as to when operation should be done and what type of operation is safer in the given case. It has been our practice not to operate in all cases of acute cholecystitis because if an operation is done, usually cholecystostomy is the operation of safety and in a high per cent the patient must return for a secondary cholecystectomy. Judd¹ has reviewed a series of cases in which cholecystostomy was done and found 17 per cent suffered subsequent trouble requiring cholecystectomy. With careful watching many cases can be carried safely through an acute attack, and cholecystectomy can usually be done safely later; however, these cases should be decided on their individual merits. A certain number must of necessity have cholecystos-

tomy if we are to avoid the small group resulting in perforation and peritonitis.

It is in the second group, chronic cholecystitis without stones, that a correct diagnosis is most difficult to make and the proper treatment difficult to evaluate. In these cases the most prominent symptom is a qualitative dyspepsia without evidence of recurrent gallbladder colic. Physical examination gives little aid, as there are few, if any, localizing signs. Lahey² suggests the following criteria for operation in this class: When there are symptoms of nausea, gaseous eructation, abdominal distention and right upper abdominal pain; when adequate investigation fails to demonstrate other lesions which might be causing the symptoms; when the symptoms persist in spite of medical measures; and when suspicious evidence by cholecystogram is present. He thinks under such conditions cholecystectomy has yielded satisfactory results, while cases operated upon without complying with these criteria will probably yield a high per cent of unsatisfactory results. Lahey is operating on much fewer cases in this group than formerly. Judd disagrees with the prevalent impression that cholecystitis with stones gives the best permanent operative results. In his experience, if there is sufficient evidence of inflammation of the gallbladder to warrant surgery, then those cases without stones give the best permanent results. This statement, from one of Judd's ability and experience, is a strong argument in favor of an early diagnosis and an early cholecystectomy. In my experience, when I have been in doubt whether cholecystectomy should be done, I have on several occasions regretted leaving the gallbladder; in only a few instances have I regretted cholecystectomy. It is now our practice to remove all gallbladders showing any signs of inflammation even though this is evidenced only by adhesions. Mason and Blackford³ think a large per cent of this type can be made comfortable by proper medical supervision. The consensus of opinion is that we should be conservative in advising surgery in this group.

It is the third group, chronic cholecystitis with stones, to which we especially invite

*Read before the Medical Association of Georgia, Augusta, May 10, 1934.

your attention. Here, we think, there should no longer be controversy. As surgeons have learned to relinquish the treatment of duodenal ulcer showing no evidence of obstruction, threatened perforation or repeated hemorrhage, so should internists realize their limitations in the medical care of chronic cholecystitis with stones. They should relinquish the treatment of these patients before they are embarrassed by one of the many dangerous complications incident to common duct stones with jaundice, hepatitis with inevitable permanent damage to the liver and possibly to the pancreas and kidneys, with the attending mortality.

Symptoms in this group of cases are fairly definite. The most reliable of these are the history of recurring attacks of upper abdominal pain often requiring morphine for relief, to be followed frequently by a mild jaundice, at times so mild as to be demonstrated only in the sclera, and then only in daylight. There is invariably noticed mild or severe tenderness in the right upper quadrant which may persist for several days. As is true of other inflammatory lesions in the abdomen we think this is probably the most trustworthy physical sign in gallbladder disease. Pain is frequently referred to the back or right scapular region, but this may be misleading, as we often have the pain referred to the left hypochondrium or even the precordial region. It is in this group of cases that cholecystogram yields its best results and, if given intravenously and properly interpreted, will be reliable in a high per cent of cases. Graham⁴ and his co-workers think it reliable in as high as 98 per cent. While the cholecystogram does not replace a carefully taken history, it is often the deciding factor in the diagnosis. This is especially true when we are dealing with a cholesterol type of stone. They are readily seen as negative shadows in the gallbladder that has concentrated the dye, while they cannot be diagnosed by a flat plate.

While the exact function of the gallbladder and the true pathology of gallstones are not clearly understood, this should not mitigate against surgery when the indication of serious disease exists. There is without doubt

a close relationship between infection and gallbladder stones; even sterile cholesterol stones may become impacted in the cystic duct, and quickly become infected.

Graham and Peterman⁵ think that they have been able to show that infection occurs primarily in the liver, probably as a result of a portal infection from some other viscus, often the appendix or duodenal ulcer. This later extends to the gallbladder through the communicating lymphatics. The gallbladder having become infected, a vicious circle of infection is set up between the gallbladder and the liver. We are all familiar with the frequent picture of chronic hepatitis found in the region of the gallbladder bed when operating for gallbladder disease. This has been repeatedly emphasized by Judd, Heyd, Lahey and others of wide experience. In addition to the associated hepatitis, Deaver and his co-workers attempted to demonstrate a relationship between chronic cholecystitis and pancreatitis.

While most of the islands of Langerhans are in the tail of the pancreas and are rather distantly removed from the gallbladder, there has been considerable evidence to suggest a relationship between chronic gallbladder disease and diabetes. Joslin⁶ has said that if he could choose all of his cases of diabetes coming for treatment, he would prefer those showing definite evidence of gallbladder disease, because with the eradication of the gallbladder, he would expect improvement in the diabetes. Judd⁶ is sure that he has seen improvement in the diabetic following the removal of a chronically diseased gallbladder and he likewise has seen cases of primary hepatitis relieved by cholecystectomy. These numerous evidences of associated inflammation in the neighboring organs principally the liver, and pancreas is strong evidence that chronic cholecystitis acts as a focus of infection, the exact nature of which is not well understood. With each recurrent attack of gallbladder colic, with its associated infection, there is an added damage done the biliary system and, in addition, there is the ever present hazard of common duct involvement. A stone lying quiescent in the gallbladder, which a few days before could have been

easily removed by the average competent surgeon with a mortality scarcely exceeding 1 per cent and with a hospital stay of approximately 14 days, has suddenly given evidence of its presence at the ampulla of Vater with all of the symptoms of obstructive jaundice. In so doing, it has challenged the ingenuity, dexterity and judgment of the most skilled in surgery, with a mortality that might exceed 50 per cent and necessitating a hospital stay that exceeds four to six weeks. The patient might even unfortunately acquire a benign stricture resulting from the stone, thus giving rise to a surgical tragedy for which there is not yet a satisfactory remedy. Unless the patient is fortunate enough to have the stricture occur in the pancreatic segment of the duct making probable an anastomosis between duct and the duodenum, the ultimate outlook for a permanent cure is most discouraging. Many procedures for repair of biliary stricture have had their advocates, the most recent of which is transplantation of external biliary fistula as described by Lahey, but this too, has ultimately proved unsatisfactory.

The fourth group is largely preventable since common duct stones are usually secondary, due to gallbladder stones. It is in this group of cases that the mortality rate mounts rapidly from 2 to 50 per cent, depending on the ability of the surgeon, stone impaction, and the grade of severity and duration of the jaundice.

Judd, in a review of 606 cases of cholecystitis operated more than twenty years previously, has shown that practically all common duct stones originate in the gallbladder. A stone almost never originates in the common duct; hence, if operation is done in the cases of chronic cholecystitis with stones before there is evidence of common duct involvement, the incidence of common duct stones should practically disappear. Lahey² has been able to show the increasing incidence of common duct stones, many of which are only discovered at the time of operation when the common duct is actually explored. Since 1927, he has explored 30.3 per cent of the common ducts in the cases with a history of repeated attacks of jaundice, those with thick-

ened gallbladders, and those with dilatation of the duct; he has found stones present in 12.6 per cent of such cases. To quote Lahey, "We must overcome the complacency with which we permit patients to go through repeated attacks of gallstone colic, we must learn that it is delay either on the part of the physician or patient which makes the ultimate high mortality and bad results."

In urging surgery for relief of certain types of gallbladder disease, we are thoroughly cognizant of the fact that the seriousness of these cases should not be minimized. This has been well expressed by Sir Berkeley Moynihan³ who said, "Surgery of cholecystitis is sometime extremely difficult, and too, presents more problems for immediate accurate judgment than any other branch of surgery. If I might presume to offer my advice to the surgeon who has no great and constant opportunity for practical work, I would suggest to him never to do gastroenterostomy without the presence of a demonstrable lesion which requires it and to leave the surgery of gallbladder disease alone." Competent surgery should yield a mortality scarcely above 1 per cent provided the case has not progressed to the stage of common duct involvement, in which event the mortality immediately rises, varying from 2 to 50 per cent, depending upon certain factors incident to common duct stones and their sequelae.

There are no harmless gallbladder stones.

In this series of 84 cases of gallbladder disease we have attempted to show that in the absence of common duct obstruction the mortality is extremely low. In a recent paper we⁴ reported 10 cases of common duct obstruction with a hospital mortality of 50 per cent. Unfortunately, all of these were completely obstructed, either due to carcinoma of the head of the pancreas or impacted stones. In the present series there was only one fatality with a mortality of 1.19 per cent. Such a marked difference in mortality rate should convince us that early operation in gallbladder disease is imperative.

In these 84 cases there were 14 operations for acute gallbladder disease and 70 operations for chronic disease. In 77

cases cholecystectomy was performed; cholecystostomy, in 7 cases. There were 37 cases (44 per cent) in which stones were found in the gallbladder; there were 5 cases in which advanced empyema was present and in one case the gallbladder was ruptured. Another case of rupture of the gallbladder, which resulted in death, is excluded from this series since no operative procedure was performed on the gallbladder. This extremely obese patient went bad on the table and it was thought wise simply to drain the abdomen rather than to make further attempts to expose the gallbladder. Autopsy three weeks postoperative revealed the ruptured gallbladder.

There was one patient between the ages of 10 to 20 years; there were eight patients between the ages of 20 to 30 years; 25 patients between the ages of 30 to 40 years; 24 patients between the ages of 40 to 50; 21 patients between the ages of 50 to 60 years; 4 patients between the ages of 60 to 70 years; and 1 patient between the ages of 70 and 80 years. The youngest case was 19 years old, the oldest 76 years. There were 24 males and 60 females (71 per cent).

In the majority of cases the incision was an upper right rectus. In the latter cases of the series a modified Bevan incision has been made. We believe this gives a stronger wound. The gallbladder was removed from below upward, in practically all cases. The wounds have been uniformly drained with one cigarette drain which was removed on the second or third postoperative day.

There were 21 cases of the 84 which showed postoperative complications. There were 8 cases having liver insufficiency and 3 having acute dilatation of the stomach. It was these two complications in which we were particularly interested, since early recognition and prompt adequate treatment is most important. Those cases developing a liver insufficiency usually showed a rapid rise in temperature and pulse, at times within 6 hours, associated with nausea and vomiting. They rapidly became comatose. Glucose intravenously covered with insulin every 6 to 12 hours caused a rapid drop in the temperature and pulse with a gradual return to normal.

Acute dilatation of the stomach manifested itself usually in the first 48 hours postoperative. The symptoms were at first nervousness and restlessness or frequent vomiting of very small amounts of fluid. Later the pulse began to mount rapidly and there was beginning tympany and distention over the entire epigastrium. If allowed to progress untreated these cases develop almost constant vomiting with acidosis, marked dehydration, and eventually death. Proper treatment consisted in early recognition, insertion of a Levine tube through the nose to the stomach, and frequent lavage and aspiration through the tube. Commonly, the tube was left constantly in the stomach for several days. The acidosis was evident from the high content of acetone and diacetic acid in the urine and was combated with concentrated dextrose intravenously every 8 to 12 hours.

In our 84 cases there was one death, a mortality of 1.19 per cent. Santee² reported a series of 299 cases from Bellevue Hospital with a mortality of 6.3 per cent. Goldish and Gillespie⁷ reported a mortality of 5.9 per cent and quotes Judd and Parker, from the Mayo Clinic, with 1.5 per cent. Lahey² reported a 2.2 per cent mortality for all operations on the gallbladder. Our fatal case was a woman, age 47 years, who was explored through a right rectus incision, for acute appendicitis. After the appendectomy the gallbladder was found to be filled with stones and was removed. On the second postoperative day nausea and vomiting began and the pulse and temperature rapidly rose. In spite of repeated administration of glucose intravenously, the patient died on the seventh postoperative day of liver insufficiency. This mortality was probably due to an error in judgment in removing the gallbladder in the presence of acute appendicitis. With our added experience we would not consider such procedure today.

Conclusions

1. Eighty-four cases of gallbladder disease have been presented, all of which were operated upon by us.
2. One death occurred, a mortality of 1.19 per cent.

3. An attempt has been made to show that gallbladder disease, even though acute, ruptured or containing stones, carries a very low mortality compared with the neglected case that has developed common duct obstruction.

Discussion on Papers by Drs. Watt, Grove and Read

DR. KENNETH R. BELL (Atlanta): In discussing these two papers I wish to devote my short time to a discussion of one phase of Dr. Grove's paper; namely, cholecystography. One of the most important contributions to the problems of abdominal diagnosis in the past twenty-five years has been the cholecystographic method devised by Graham and his co-workers. As Dr. Grove has pointed out, cholecystography can give accurate information in regards to the gallbladder in 95-98 per cent of cases, when the dye is properly given and the films are properly taken and interpreted. This percentage of accuracy has been arrived at by operative confirmation of the x-ray findings in both pathologic and normal cases, in the latter cases the gallbladder having been explored at operation for other causes. By the proper giving of the gallbladder dye, I mean the intravenous administration. Cholecystograms can be obtained by oral methods, but only when the resulting films show a normal gallbladder, can a positive diagnosis be made. In cases which show a faint shadow or no shadow at all, the question always arises as to whether the poor visualization is due to disease or to non-absorption of the dye from the gastrointestinal tract. I have seen many cases of supposed gallbladder disease, diagnosed from oral cholecystograms, which were shown to be normal by an intravenous dye. I have recently received a letter from Dr. Sherwood Moore, radiologist to the Barnes Hospital in St. Louis and the original investigator along with Graham, in the x-ray interpretation of cholecystograms, in which he said he could not give an estimate of the accuracy of the oral method of cholecystography, as it had been of no value in his hands. The best reported percentages of accuracy in the literature are some 20 per cent below that for intravenous cholecystography.

By the proper taking of the x-ray films, I mean that following intravenous administration of the dye, films should be taken at 4, 8 and 24 hours, a fatty meal having been ingested following the 8-hour film. There are only two known functions of the gallbladder, and these are the concentration of the bile and regulation of pressure within the biliary system. In order properly to study the gallbladder as a potential source of disease, these two functions, and principally the former, must be kept in mind, as a disturbance of function is the earliest sign of disease in an organ. It is, therefore, necessary to take films early in the process of filling of the gallbladder with the dye, in order to have a film with which to contrast a later

film, when concentration is at a maximum. Following intravenous injection the dye can be detected in a normal gallbladder at the end of two hours, and hence a 4-hour film will normally show a definite, though faint gallbladder shadow. If, then, the 8-hour film, at which time the dye has reached its maximum concentration, does not show a decided increase in the density of the shadow, one can feel certain that a pathological organ is being dealt with. The 24-hour film is taken, following a fatty meal, to show the emptying power of the gallbladder.

I wish to emphasize further the points raised by Dr. Grove as to the necessity for early diagnosis and surgical relief in cases of gallbladder disease, to prevent irreparable damage being done to the liver. In 1928, five years after the introduction of cholecystography, Graham introduced a new dye, sodium phenoltetraiodophthalein, which is an isomer of the original sodium tetraiodophenolphthalein, the use of which made possible the estimation of liver function simultaneously with cholecystography, when the dye was given intravenously. The routine use of this liver function test has shown that 85 per cent of all patients with a history and cholecystographic findings of gallbladder disease, show evidence of a hepatitis, which may be definitely gauged, and which, in many cases in which it is unsuspected, may have reached an alarming stage. I feel that the majority of deaths from biliary tracts surgery, in the hands of competent surgeons, is due to this unrecognized concomitant hepatitis, the patient dying from an acute liver insufficiency. Fortunately for the patient, if this fact is remembered and the status of the liver investigated, if it is found to be badly damaged, appropriate therapy will change an otherwise poor operative risk into a reasonably safe one. In Graham's clinic in St. Louis in the years 1925, 1926, and 1927, there was a mortality of 6 per cent in 216 consecutive gallbladder cases. In 1928, 1929, and 1930, after the adoption of the liver function routine, in 224 consecutive cases, there was a mortality of 0.4 per cent. This drop in mortality was due entirely to the recognition of severe grades of associated hepatitis, with proper measures carried out to increase the operability of the cases, before surgery was instituted.

As regards the innocuousness of gallbladder stones, even when apparently not causing symptoms, I would like to add to Dr. Grove's statements, referable to the possibility of common duct involvement, certain statistical findings. Of all carcinomas of the gallbladder 98 per cent have an associated cholelithiasis and 8 to 14 per cent of all cases of cholelithiasis have an associated carcinoma of the gallbladder. These facts give undisputed evidence as to at least one etiologic factor in gallbladder carcinoma, and in advising a patient to have a gallbladder removed because of stones, in addition to citing the serious consequences of a common duct stone, one can offer the patient an 8 to 14 per cent chance of death from carcinoma of the gallbladder, in contrast to a 1 per cent or less chance of

death from cholecystectomy. It cannot be too vigorously urged that earlier and more accurate gallbladder diagnoses be made and that appropriate surgical measures be carried out at the earliest possible time.

DR. KENNETH MCCULLOUGH (Waycross): Not to have conferred before they wrote these two papers, Dr. Grove's and Dr. Watt's papers are something like the cup and saucer, one would not have been complete without the other.

Dr. Watt brought out one feature that to my mind is worthy of special mention, and that is what we would promise the patient from gallbladder surgery, and he went on to a masterful analysis. The point I wish to mention particularly, however, is that in a great many cases of gallbladder surgery, the surgeon does not have time to study the case out. The case is brought into the hospital in the middle of the night, and you are almost compelled to do a cholecystostomy, because the case is too acute to attempt further surgery with it.

Years ago, when I was an interne under the late Dr. Frank Martin of Baltimore, his procedure was to take out any gallbladder. His statement was that any gallbladder which was diseased enough to be operated on was diseased enough to be removed. But in the present-day situation I have found that the average acute gallbladder that comes to the surgeon is so acute that it is folly to try to remove it. There are a few other cases that come to you, but in the smaller communities such as I live in, most of the cases have to be drained rather than removed.

Dr. Watt also divided his cases into the selective and the compulsory types, you might say, which bring us back again to the same statement I just made, that in the average smaller community the draining of the gallbladder is frequently the thing to do.

The postoperative complications which Dr. Bell mentioned are often overlooked, and the failure of the liver to function properly after operation is one of the most frequent causes of disaster following either a cholecystectomy or a cholecystostomy. It is something that if possible should be foreseen, but it cannot always be foreseen and is usually the most frequent cause of mortality following gallbladder surgery.

DR. WALTMAN WALTERS (Mayo Foundation, Graduate School, University of Minnesota, Rochester, Minnesota): These two papers I think brought out the salient features in the treatment of disease of the gallbladder, and I have been particularly impressed by the additional points which were brought out in the discussion.

I think Dr. Watt is to be congratulated on the very good results that he has obtained, and that is true also of Dr. Grove with his series of cases. Such a low mortality rate, in these particularly serious cases, is remarkable, for it can be obtained only by choice of the proper surgical procedure carried out at the proper time.

It might not be amiss to say a few words regarding the practical application of cholecystography in the diagnosis of cholecystic disease. It is the opinion of some of the older clinicians and surgeons who have studied a good many patients with cholecystic disease both before and after the introduction of cholecystography, that one's accuracy in regard to the diagnosis of cholecystic disease, including not only the inflammatory lesion but its accompanying stone in some cases, was as high before cholecystography was available as it is at present. The explanation probably lies in the fact that in a few cases of disease of the gallbladder, cholecystography fails to confirm a clinical diagnosis of cholecystitis, and one is likely to err, therefore, in deferring diagnosis, in spite of a good clinical history of cholecystitis.

I think it is important to remember that a positive report of disease of the gallbladder, based on cholecystography, is of course confirmatory evidence which seldom can be controverted; on the contrary, a negative report based on a cholecystogram does not mean that disease of the gallbladder is absent.

There is no question but that patients with cholecystitis, accompanied by stones, and who have as the result biliary colic, note excellent results following cholecystectomy. Everyone is agreed on that point. I am sure. The problem there is one of inflammation complicated by intermittent obstruction due to the stone that obstructs the cystic duct. Such patients realize the necessity of having such a diseased gallbladder removed. But it is just as true that patients without stones may have just as intense pain, and obtain just as good results following cholecystectomy, as patients who have cholelithiasis. In cases in which there are no stones, the pain is frequently the result of associated pancreatitis.

I have been particularly interested for the last two or three years in a group of cases, now numbering about thirty, in which operations on the gallbladder, for drainage, previously had been performed. Most of these patients had had stones. Various periods of time had elapsed following cholecystostomy in which the patients had had good health, but then attacks of biliary colic had recurred, and not infrequently a mild degree of jaundice was present, and at operation were found a subacutely inflamed gallbladder without stones, an enlarged, thickened, inflamed common bile duct, a pancreas the head of which was indurated and swollen, with the diffuse, brawny thickening of pancreatitis.

In the presence of jaundice, thinking a stone is present in the common bile duct, opening it, and not finding the stone, one is always confronted with the possibility that the stone has slipped up into one of the intrahepatic ducts. But on not finding the stone, drainage of the common bile duct is instituted and the gallbladder is removed. I have followed up thirty such cases in which I have operated in the past ten years. This group constituted 10 per cent of jaundiced patients who had stones in the common bile duct. Removal of the infected gallbladder and prolonged drain-

age of the common bile duct, removing the obstruction, apparently has given the pancreatic inflammation a chance to subside, and the patients have had good results.

The principle there is similar to one of the principles which I discussed last night namely, that obstruction in different hollow viscera of the body usually is accompanied by similar physiologic changes.

In the surgical treatment of all lesions of the biliary tract, and particularly of those that are complicated by jaundice, one must find at the time of operation pathologic lesions sufficient to explain the symptoms which the patient has had. For instance, if at the time of operation one does not find adequate explanation for the jaundice which the patient has had, the probabilities are that one is erring in the interpretation of the lesion. What is the explanation for that group of cases in which there is jaundice, no stones in the common bile duct, but subacute cholecystitis? The explanation probably lies in the fact that the diseased gallbladder carries its inflammation by continuity, through the common bile duct as well as through the lymphatics, to the branches of the duct in the liver and to the pancreas. When one removes the subacutely inflamed gallbladder, one removes the diseased viscus disseminating the infection. When one drains the common bile duct, one relieves the biliary obstruction, both of which are necessary for relief of the pancreatitis.

Finally, I want to discuss briefly early cases of cholecystitis, in which symptoms of cholecystic disease are present, and in which the roentgenogram of the gallbladder may be negative. I refer particularly to the cases in which patients have cholesterosis of the gallbladder, resulting in what frequently is called the strawberry gallbladder. You all know what that is. It is that yellow stellate type of marking of the mucous membrane of the gallbladder which looks like the exterior of a strawberry. Frequently these patients have, in addition to the cholesterosis, associated papilloma. Frequently these patients have a qualitative food dyspepsia, a feeling of fullness and gas immediately after meals, particularly so after eating raw apples, cabbage and onions. In these cases, frequently, relief of these troublesome symptoms can be obtained by restricting the patients' diet and eliminating those types of food which produce this dyspepsia.

Occasionally one will see a patient who has qualitative food dyspepsia, and to whom dietary measures, and administration of sodium phosphate and laxatives, will not give comfort sufficient that they are able to carry out the activities of their life work and pleasure, and then they seek relief. If they cannot obtain relief of symptoms on medical treatment it is obvious, and it is useless to try to carry them along for a longer period under circumstances which have given no relief. I believe that those patients should be operated on. Frequently a diseased gallbladder, with the appearance of a strawberry, so-called cholesterosis, will be found, and frequently removal of this gallbladder will give excellent results. Occasionally it will

not. Why, is not known. Possibly residual pancreatitis, possibly residual hepatitis, is the reason. There is no difficulty in making a diagnosis of cholecystic disease when the patient has colic and stones are present. But a good deal of diagnostic acumen is necessary to establish a diagnosis of early cholecystitis when one is handicapped by a roentgenologic report of a "normally functioning gallbladder."

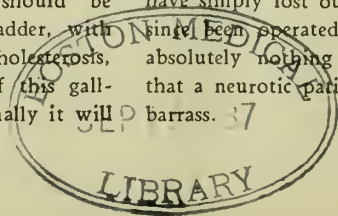
I want to close by describing two cases. One patient was a youth of 19 years, on whom I operated for subacute appendicitis. I examined his gallbladder at the same time and could not feel stones. Two years later, when he was 21 years of age, he returned with a history of jaundice without pain over a period of four weeks, and a diagnosis of catarrhal jaundice was made. Fortunately, we said, "If you continue to have jaundice, or have abdominal distress, come back." He came back in three weeks, with distress. He had a gallbladder filled with small stones and had stones in the common bile duct. Yet, two years before, in a satisfactory palpation of that gallbladder, which had emptied readily, no stones were apparent.

The other patient was a woman who had the qualitative food distress of which I spoke. No stones were palpated at the time of operation, and we thought, "Here is one of these cases of chronic appendicitis." The appendix was removed. She continued to have food dyspepsia, and two years later biliary colic began. She was operated on again; the gallbladder was filled with stones.

It is possible that I overlooked stones in both of those cases, but the gallbladder was not filled with stones when the patients had been operated on previously, and I believe both cases illustrate the fact that in early cases of cholecystitis symptoms may be just as definite as if stones were present. In these early cases it is easy to be misled by a negative roentgenologic report of disease of the gallbladder, or indeed by the appearance of the gallbladder at operation.

DR. W. S. GOLDSMITH (Atlanta): Dr. Walters answered all the questions that I wanted to ask, except for one point with reference to the removal of the gallbladder. Many of us have seen an easily emptied, normal looking gallbladder, with no stones, no adhesions. What are we going to do? Are we going to depend upon microscopic examination after cholecystectomy is made, in order to satisfy the patient and the family? Have we nerve enough to leave that gallbladder in?

I thought two or three years ago that I had developed sufficient nerve to leave them in, and my practice dropped off tremendously, because unless you can show a woman an appendix or gallbladder, you have simply lost out. One or two of these cases have since been operated on, the gallbladder removed, and absolutely nothing abnormal found, with the result that a neurotic patient continues to complain and embarrass. 37



I regret that I missed Charlie Watt's paper. There was one type of acute cholecystitis that he did not mention, and this is the acute remunerative type.

This is a serious question. It is very easy to remove a gallbladder. People can get along without gallbladders, although the commonest supposition is that you live only seven years without a gallbladder. What are we going to do, with no adhesions, a little bit of an innocuous blue gallbladder. We have got to wait until we can find the microscopic strawberry tendencies to make a diagnosis to satisfy the patient and the family. That is a big question. So I will ask you to answer that, if you can.

Here is another thing. I was so gratified to hear Dr. Grove's paper in which he did not mention the thorough exploration of the patient's abdomen, when there were not serious pathologic conditions in the gallbladder. In other words, the removal of a perfectly innocuous looking appendix in conjunction with more or less trauma in the gallbladder region. To my mind, this extended exploration, taking out the appendix, after you have fooled with the gallbladder, and fooling with the gallbladder is no little job, means that you have done a good deal for the patient.

For the past several years I have stopped taking the appendix out at the first operation, and I later take it out, collecting two fees. We used to have these great, long incisions, where the gallbladder is removed and the appendix is dealt with.

Dr. Grove took my appendix out six or seven years ago, and I asked him not to fool with my gallbladder. I said, "If you find stones, I will take an anesthetic again and have two scars instead of one."

DR. FRANK K. BOLAND (Atlanta): Mr. President and Gentlemen: I enjoyed these papers very much. Dr. Watt referred to the paucity of gallbladder disease in the Negro race. We might dismiss this subject by saying it is a racial characteristic, or explain it as Dr. Walters did last night when he spoke of the difference in diseases of the stomach in Germans and Americans. But I think there is another explanation which is plausible in regard to the lack of disease of this kind in the colored race, with which we have so much to do in this part of the country.

You are all familiar, I am sure, with the remarkable article by McGarrison, written ten years ago, in which he related his experience among the inhabitants of Northern India, where he was stationed as a British surgeon for something like nine years. During that time he performed 4500 surgical operations of various kinds, and he had not a single operation for appendicitis, gallbladder disease or peptic ulcer. He explains the absence of those diseases among those people by the diet upon which they live. He says they live on foods which are grown in that vicinity; that is, nature's food, you might call it, nuts, grains, milk, eggs and lots of green vegetables. He writes that they have but very few foods which are shipped to them from a distance, no sterilized, pickled, polished, frozen, or

thawed foods, such as we in this so-called civilized country live upon. McGarrison states that these people eat very little meat, and in the town of 30,000 people where he was stationed the consumption of sugar in one year did not equal the amount of sugar consumed in a large New York hotel in one day.

In a like manner I think we can look upon the foods that our Negroes eat as being a factor in the paucity of these diseases in this race. In Atlanta, at the Grady Hospital, nearly 100,000 patients are treated every year, about 55,000 in the white division and 45,000 in the Negro division, and in that way we have a means of comparing diseases in the two races. We have found there that these three great surgical diseases of the abdomen, gallbladder disease, peptic ulcer and appendicitis, are only one-fourth as common among the Negroes as among whites.

If we consider the food that our Negroes eat, I think we have a parallel case in the experience of McGarrison. Our Negroes subsist on cabbage, cornbread and pot likker, whereas we of the white race eat these foods which I mentioned, which McGarrison says are robbed of their vitamins, foods which are shipped from a distance and stored and kept for months and years. He believes that nature's foods, which are fresh, and brought from the fields in the vicinity of the place where the people are living, are much less apt to produce these diseases than the foods which we are accustomed to eat in this country.

DR. A. D. LITTLE (Thomasville): We have enjoyed the papers of Doctors Grove, Read and Watt, as they have covered their subjects in a splendid way and have shown that they appreciate the many factors that enter into gallbladder surgery. All that we can possibly do in way of discussion is to enlarge upon some of the facts which they have stated.

In the first place, in no type of surgery is the injunction "know your patient" quite so important, meaning by this the renal and hepatic functions, the circulatory system, and as near as possible the type of gallbladder disease with which you are dealing. After knowing these facts and having a good history, you have something upon which to base your surgical judgment.

As we all know, the upper abdomen does not tolerate infection or trauma as well as the lower abdomen, so for that reason if for no other we should not insult tissue in our gallbladder surgery, doing as little and as gentle manipulation as possible, and for that reason I believe spinal anesthesia is a good adjunct in many cases, as it affords beautiful relaxation and therefore easy manipulation, which means less consumption of time, all of which means decrease in shock.

We cannot all be Judds, Laheys and Moynihans, but we can emulate them. The best way to do that is to follow fixed surgical principles, and while I am the last person in the world to advise reckless and unnecessary surgery, we do believe we have been too timid in advising gallbladder surgery, because gall-

bladder attacks are not immediately fatal as a rule and to advise an intermediary operation is a foolish waste of breath. We tried that with appendicitis and no one ever accepted the advice, so now when we make a diagnosis of appendicitis we insist on operation.

When a patient is yelling bloody murder with his first gallstone colic attack is a fine time to get him in the hospital. By the time you have completed the necessary studies he is ready for whatever type of operation you may elect. You will then have saved your patient much suffering, physical impairment and unhappiness, and his life, because chronic gallbladder cases are notoriously bad surgical risks once they get in their deadly work of impairing the liver, kidneys and heart.

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CONSIDERATION OF STONELESS GALLBLADDER

Evarts A. Graham, St. Louis, and W. Arthur Mackey, Glasgow, Scotland (*Journal A. M. A.*, Nov. 17, 1934), emphasize the fact that from the standpoint of satisfactory results the symptoms of pain, particularly the typical biliary colic, is an important feature. In the absence of severe pain the beneficial results to be obtained by cholecystectomy in cases of a stoneless gallbladder are likely to be unsatisfactory in approximately 40 per cent. There seems at present to be little justification for the subsection of operation of patients who have only the early beginnings of cholelithic disease, unless one is interested in the prevention of complications. The evidence indicates that if one operates on such patients the results will be far from satisfactory in almost one-half of the cases. Symptoms other than pain which are commonly associated with gallbladder disease are much less likely to disappear after cholecystectomy than is pain itself, unless the changes in the organ are definite and marked. The determination of how much a patient's symptoms are due to the gallbladder in a case of minimal disease of that organ is extremely difficult. Many of these patients are undoubtedly on the borderline between purely functional and anatomic disorders that produce disturbances of function. In order to arrive at a satisfactory incrimination of the gallbladder it is necessary to examine the patient thoroughly with reference to the possibility of other sources of the complaints; and so far as the gallbladder itself is concerned it is necessary not only to take a very careful clinical history but also to resort to various special methods of examination.

CHOLECYSTOGRAPHY — THE ADVANTAGES OF THE INTRA- VENOUS ADMINISTRATION OF THE DYE*

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Atlanta

The preparation of a paper on this subject has been prompted by the observation that there seems to be not only a lack of interest in intravenous cholecystography, but also some active opposition to it. Having spent four years on the surgical service of Barnes Hospital in St. Louis under Dr. Evarts Graham, who worked out this diagnostic procedure, I have seen it used in all of its ramifications, and feel that the profession is losing a great deal of the diagnostic aid which can be obtained from proper cholecystographic methods.

The value of cholecystography as a diagnostic procedure needs no confirmation. In reviewing the literature, however, for the past eleven years, which is the span of time in which the procedure has been used, one is surprised at the varying estimates of its accuracy as a diagnostic method. These estimates vary from 98 per cent of accuracy to 50-60 per cent. It has been my observation that those who have such low percentages of accuracy are those who overlook the one important fact claimed for cholecystography, namely, that it is only a functional test of the gallbladder. The diagnosis of typical, full-blown, gallbladder disease can be made in 70-80 per cent of cases from clinical examinations alone, and in such cases cholecystography is largely confirmatory evidence. It is in the early and obscure cases that cholecystography is most useful and can give help with 95-98 per cent of accuracy. This help can only be secured by studying a series of films from the standpoint of functional activity of the gallbladder. The only known function of the gallbladder are the concentration of the bile and the regulation of pressure within the biliary system¹. These functions can only be studied by the proper administration of the dye and the proper interpretation of a series of films.

*Read before the Fulton County Medical Society, Atlanta, May 17, 1934.

It is possible to obtain visualization of the gallbladder both by oral and intravenous administration of sodium tetraiodophenolphthalein. It should be obvious why the oral method cannot be as accurate as the intravenous method. It is necessary to give almost twice as much dye by mouth as is necessary when given intravenously, to allow for non-absorption of some of the dye. This factor of non-absorption, plus the frequent occurrence of nausea, vomiting, and diarrhea, which causes the loss of an unknown quantity of dye, is the chief reason for poor visualization of the gallbladder, provided, of course, that poor visualization is not due to gallbladder pathology. In oral cholecystography, when faint or non-visualization occurs, the question always arises,—is it due to pathology or to non-absorption?

In the intravenous method of administration, we have a procedure which assures us held up to 95-98 per cent of accuracy. This estimate of the accuracy of the method has been arrived at by operative confirmation of the x-ray findings in large series of cases from several clinics, both in pathological and in normal cases, in the latter cases the gallbladder having been examined at operation for other causes. The best reported percentages of accuracy in the oral method are some 15-20 per cent below that for the intravenous method and could be shown to be even less accurate if a larger number of cases studied by the oral method were checked by intravenous dyes.

The intravenous administration of gallbladder dye is safe, when given with the care necessary for any intravenous therapy. Graham stated² in 1928 that he had personal knowledge of 15,000 cases in which intravenous administration had been used with no severe reactions and mild reactions in only 10 per cent of the cases. These mild reactions include headache, vertigo, nausea, abdominal cramps and mild urticaria. In the past few years, an average of three hundred intravenous dyes were given at the Barnes Hospital yearly, with no serious reactions and mild reactions in approximately 10 per cent of cases. At the Presbyterian Hospital in Chicago, I gave approximately two hundred intravenous dyes in one year, without a severe

reaction and with mild reactions in only six cases. Only three deaths are reported in the literature as being due to the intravenous injection of the dye. In one of these cases⁴, a dosage almost twice that recommended as maximum was given. In another⁵, the oral administration of the dye was followed in twenty-four hours by an intravenous dye, in a man found at autopsy to be dying from mercury poisoning. In the third case⁶, a solution of the dye was used which had been kept for seven months before using. I have personal knowledge of a fourth death, in which the dye was given to a patient with severe cardiac disease. The causes of these deaths are obvious.

The low percentages of unfavorable occurrences following the intravenous usage of the dye is to be contrasted with a 20-22 per cent occurrence of reactions of the same type in patients given the dye by mouth. It is to be admitted, certainly, that if serious reactions do occur, they are most apt to occur following intravenous usage, but the evidence accumulated over an eleven year period fails to show any serious danger associated with the intravenous method.

The accepted method of giving the dye intravenously is by gravity. It must be given slowly, taking not less than ten to fifteen minutes, and preferably thirty minutes. Giving the dye in concentrated form with a syringe will increase the number and severity of reactions and will frequently cause a mild phlebitis. By using the gravity method the dye can be given in very dilute solution with minimum danger.

The contraindications to the use of the intravenous method are those for any form of intravenous medication, namely, advanced heart disease, nephritis, allergy, marked debility, acute illness of any type, and very low blood pressure.

After an intravenous dye, films should be taken at four, eight, and twenty-four hours, in order to study in detail the functional activity of the gallbladder. The four hour film shows the early contours of the organ, the eight-hour film its concentrating ability as well as more of the contours, and the twenty-four hour film the emptying

power. In my original experience with cholecystography, I gave the dye at midnight, with films taken at nine, twelve, and sixteen hours, but later came to recognize the value of the four-hour film, as this film will frequently be the most valuable one of the series.

The intravenous administration of the dye has, in addition to the advantages of greater accuracy of diagnosis, another and perhaps as important an advantage, particularly to the surgeon. I refer to the estimation of liver function simultaneously with cholecystography. A drug which can thus be used was introduced in 1928 by Graham and his co-workers⁷. This newer drug, sodium phenoltetraiodophthalein, is an isomer of the original sodium tetraiodophenolphthalein, and has a molecular arrangement such that it gives deep staining to the blood serum. These two chemicals, as manufactured by the Mallinckrodt Chemical Company of St. Louis, are supplied commercially under the names iodeikon and iso-iodeikon. The iso-iodeikon is similar in all respects to iodeikon in the visualization of the gallbladder and has the additional advantage of being less toxic and can be given in smaller doses. For iodeikon, the dosage is fifty milligrams per kilogram of body weight and not over three and one-half grams total for any patient. For iso-iodeikon, the dosage is forty milligrams per kilogram and not over two and one-half grams total.

The use of iso-iodeikon for liver function estimation gives evidence as to the same function of the liver as do the phenoltetrachlorophthalein and the bromsulphalein tests, the latter being most commonly used. The use of iso-iodeikon gives a much more accurate estimation of this liver function, as it can be given in a dosage of forty milligrams per kilogram as compared to five milligrams per kilogram for bromsulphalein. In carrying out this functional test, forty milligrams per kilogram of iso-iodeikon are given as for routine intravenous cholecystography. Thirty minutes after the dye has been given a sample of blood is taken, about fifteen cubic centimeters, and allowed to clot. The resulting serum can be alkalinized with a drop of 10 per cent sodium hydroxide to bring out the phthalein

color, and then matched against a standard. The standards used in this test can be secured from the Mallinckrodt Chemical Company of St. Louis, Mo., or can be easily made up from a sample of the drug⁸. The utilization of this dye as a functional test is dependent on the liver's ability to remove the dye from the blood stream, and the expression of results in terms of liver function is the percentage of dye remaining in the blood stream after thirty minutes. It is to be freely admitted that the test is a crude one, but is certainly the most accurate one at the present time available, and results obtained from its usage justifies its adoption by the profession.

For those doing surgery, and particularly biliary tract surgery, such a test run routinely in conjunction with cholecystography is of inestimable value, and the true appreciation of its value can only be found by checking a large group of gallbladder cases and seeing the unexpected large percentage of cases which give evidence by this test of severe and alarming liver damage. The normal liver function by this method is from 10-12 per cent, as expressed in terms of retention of dye. Eighty-five per cent of all patients with a history and cholecystographic findings of gallbladder disease show a retention of dye above normal, ranging from 15-20 per cent to as high as 80-90 per cent. I have seen one patient in apparently good health, except for a fifteen year history of chronic cholecystitis, with a retention of 100 per cent at the end of 30 minutes. These facts give an idea as to the importance of determining the status of the liver in gallbladder disease. Patients who show a dye retention of 50 per cent or more are very poor operative risks. Those who show such high retentions should be kept at rest for ten to fourteen days on a high carbohydrate diet and calcium in some form daily, before any surgical procedure is carried out. Such patients will show a marked improvement in liver function following such a plan of treatment, retentions of 70-80 per cent dropping well below 50 per cent as shown by repeating the test.

The results of such a plan at the Barnes Hospital show what can be expected from

such routine measures. In 1925, 1926, and 1927, prior to the adoption of this liver function test as a routine, there were 216 cases of simple cholecystitis operated on, with 14 deaths, a mortality of 6 per cent. The mortality for common duct cases in those same years was 7.7 per cent. In the years 1928, 1929, and 1930, following the institution of the liver function routine, there were 244 simple cholecystectomies performed, with only one death, a mortality of 0.4 per cent. For common duct cases, the mortality was 2 per cent^o. No selection of cases was made in the second series and only one patient was refused operation and that because of severe cardiac disease. The difference in the two series was the ten to fourteen day delay in operation in the second group in all cases showing a dye retention of 50 per cent or more. This marked drop in mortality from 6 per cent, which is an average mortality for cholecystectomies the world over, to 0.4 per cent, is certainly more than mere coincidence, and shows conclusively the value of estimating liver function in the presence of gallbladder disease.

Summary

1. Cholecystography is an estimation of the functional capacity of the gallbladder and must be carried out with this in mind.
2. The intravenous administration of the dye is not only safe and more accurate, but also gives less reactions than does the oral method.
3. The determination of liver function has become a necessary part of the study of patients, especially those who are candidates for biliary tract surgery, and such a liver function test can be carried out simultaneously with cholecystography by employing the intravenous method and the drug sodium phenoltetraiodophthalein (iso-iodeikon).
4. The routine use of liver function estimations to determine the operability of patients, can give a marked decrease in the mortality rate in gallbladder surgery.
5. Patients with marked degrees of hepatitis associated with cholecystitis can be made safe operative risks by increasing the glycogen content of the liver.

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BREAST LESIONS*†

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Many years ago Burton Lee devised a means of determining clinically what the pathologist would later tell us—i. e. the relative malignancy of any given growth. This is known as Lee's Clinical Index of Malignancy (C. I. M.) and will remain as another monument to the memory of a keen worker with, and careful observer of, breast lesions. It is determined in accordance with four "factors," age, lactation, extent, rate of growth, the value of which is ascertained according to the following table:

	Weighting Factor	Gradation Factor	
Age	A=2	Over 55	=1
		Ag 41—55	=2
		40 or under	=5
Lactation (including preg.)	L=3	Absent	=0
		Lg Present	=3
Rate of growth	R=4	Slow	=1
		Rg Moderate	=2
		Rapid	=4
Extent of disease	E=5	Small	
		(3 cm. or less)	=1
		Eg Large	=2
		Nodes present	=4

The clinical index of malignancy for any individual patient is calculated by multiplying the value of each weighting factor by its gradation factor and adding the results, as:

$$C. I. M. = 2 Ag + 3 Lg + 4 Rg + 5 Eg$$

*Read before the Tenth District Medical Society, Washington, August 8, 1934.

†This is the second and final section of a paper on "Breast Lesions." The first section was published in the January, 1935, issue of the Journal, pp. 14-18.

An inspection of the table reveals that the smallest possible clinical index is 11:

$$\text{C. I. M.} = (2 \times 1) + (3 \times 0) + (4 \times 1) + (5 \times 1) = 11$$

The highest possible figure is 55:

$$\text{C. I. M.} = (2 \times 4) + (3 \times 3) + (4 \times 4) + (5 \times 4) = 55$$

Based upon such a calculation, patients may be placed in one of three grades:

Grade A=11—25=relatively benign

Grade B=26—39=moderately malignant

Grade C=40—55=highly malignant

Treatment

It is illogical, impractical and impossible to lay down any hard and fast rules for the management and treatment of breast lesions. The element of judgment is perhaps more needed here than in any other part of the body. One does not want to be too radical, and needlessly sacrifice a breast, but it is far better to err on the radical than the conservative side. A patient can get along perfectly well without either breast, but cannot do so with a cancer.

Inflammatory lesions must be considered in two groups, acute and chronic—really three, if we place in this classification the so-called chronic cystic mastitides, which are more logically referred to as abnormal involutions, and are classed by others as benign neoplasms. Acute inflammations are poulticed, the part put at rest, and supported, and when and if fluctuation develops, are incised and adequately drained. A general anaesthetic is better as these abscesses are usually deep and difficult to drain otherwise. If the abscess is in a suitable position it may be drained from behind by making an incision below the breast.

Chronic inflammations are treated according to their natures—syphilitic ones receive anti-luetic treatment; tuberculous ones not infrequently require simple amputation of the breast. If left, they are too prone to show malignant changes.

Chronic cystic mastitis, mazoplasia, abnormal involution, or whatever you like to call it, presents one of our most difficult problems. The increasingly constant or at least monthly pain and tenderness of the breast upset the equilibrium of the patient and

whether constituting a danger of a later cancer or not, at least keep the patient in constant fear of such a change. When localized areas are present, or when extensive, excision or simple mastectomy is advisable. The older the individual the more radical should be the treatment. Palliative measures which give best results are: supporting brassieres, moist heat (bath towels wrung out of hot water) fifteen to thirty minutes daily, followed by the use of a breast pump if there has been a pregnancy (whether it went to term or not) or a discharge from the nipple, and some form of ovarian therapy. Formerly I used ovarian residue, then an aqueous solution of Theelin, but now use 1,000 International units of Theelin in oil one week before menses. This is less painful, more economic, more convenient and more efficient. In persistent and unresponsive cases in which the pain is marked, x-ray treatments over the breast may be tried.

Benign neoplasms, if multiple, and evidently not malignant, may be observed. Any single lump or mass appearing in a breast should be removed! If multiple, it is not always practical to remove them unless the entire breast is sacrificed.

The manner in which a benign growth is removed, varies with its size, location, age of patient and probable diagnosis. Small lumps, apparently superficial, frequently lead one into the mistake of attempting their removal under local anesthesia. Sometimes, after the solution has been injected and skin incised, the mass disappears, much to the embarrassment and chagrin of the surgeon. It is far better to attempt the removal of a large breast tumor under local anesthesia than a small one!

If the tumor is in the deeper tissues of the breast, especially if in either of the lower quadrants or in the upper outer quadrant, it can be removed through a so-called Warren incision, which is made in the fold where the breast joins the chest wall, the breast is dissected up and the tumor removed from behind. This not only gives a much better cosmetic result, but also causes less damage to the duct system. Its use should be restricted to tumors in the proper location and ones which are evidently benign.

There are many cases in which it is impossible to say whether one is dealing with a malignancy or not. Here, too, no hard and fast rule can be laid down—each case must be decided on its merits. If a competent pathologist is available (and he is the most important cog in the machinery trying to reduce cancer mortality) a lump may be excised for immediate examination, whereas if the tumor has to be sent off for a pathological report it would be much safer to do a simple mastectomy. Too much stress cannot be placed on choosing a pathologist of experience and sound judgment. An experienced surgeon can usually make a gross diagnosis, but the pathologist who is to make the microscopic diagnosis should be a man who has had experience in tumor work. It takes much more than a willing individual and a microscope to make a pathologist!

As a general rule, if the patient is less than 35 years old, and the weight of evidence is heavier on the benign side, the growth is excised; if the patient is past 35 and the weight of evidence favors a malignancy, a simple mastectomy is done; each case should be considered on its own merits.

The treatment of malignant lesions of the breast may be divided into:

- (a) Those primarily operable.
- (b) Those primarily inoperable.
- (c) Those in which palliation only is possible.

The three means at our disposal in the treatment of all of these are surgery, x-radiation, and radiation from radium, or a combination of one or more of these. A very cellular, rapidly growing tumor (as e. g. the inflammatory type carcinoma) responds much more readily to radiation than does a less cellular, scirrhous growth. Radiation may be used instead of surgery because of the physical condition of the patient.

Many controversies have been and are being held as to whether or not some form of pre-operative or post-operative radiation should be used and if so how much, and how long a time should intervene between the radiation and operation. There is not time to go into the merits of these questions. Suffice it to say that at Steiner Clinic we believe in pre-operative and post-operative x-ray.

Except in an occasional case, we feel that the results obtained justify the delay of from two to four weeks in operating. A sub-erythema dose of x-ray is given over the tumor and breast, the axilla and supraclavicular spaces—divided into three or four treatments on alternate days and then wait for from ten days to three weeks before operating.

A primary operable case is one in which there are no distant metastases as far as can be determined and in which all of the growth and involved regional nodes can apparently be removed without the probability of an immediate recurrence in the scar. Criteria for primary inoperability vary—some surgeons would class as inoperable a tumor which others would consider a relatively early case. Unfortunately, in Georgia, the stage to which the average case has progressed is so much later than in other parts of the country that we are prone to place many cases in the primary operable group which in reality do not belong there. This, if true, explains any higher mortality rate which might be reported from our clinics. Involvement of the skin immediately overlying the growth or indeed ulceration is no bar to operation. If there appears to be a good chance of getting three fingers breadth around the involved skin it is classed as operable. Fixation of the growth to the chest wall; fixation of involved axillary nodes; the presence of involved supraclavicular nodes; pulmonary or distant bone metastases, etc., if present, cause the case to be classified as primarily inoperable.

If operation is deemed advisable it should be a radical one. The type of incision used should vary with the location and size of the lesion. The principle of going three fingers breadth from the lesion should be adhered to, and the incision chosen which will more nearly accomplish this purpose. Whatever the type of incision, most of the pectoralis major and all of the pectoralis minor muscles should be removed, not because of any probability of their being involved, but in order that the axilla may be dissected properly. This should be accomplished before any work is done about the growth, so that if any cancer cells are liberated in handling the tumor or surrounding tissues these cells cannot spread through the axillary lymphatics or blood ves-

sels. All cases are drained for 24 to 96 hours, no matter how dry the operative field may seem to be. The drains are usually brought out through a stab wound in the axilla, but in some types of incision (e. g. a transverse one) can be brought out through the outer or lower angle.

It is best to tell the nurse that the dressings very likely will be soaked with a bloody discharge; failure to do this may cause many a peaceful nights sleep to be disturbed. Contrary to the teachings of two decades ago, immediate use of the arm is urged. This will prove painful but when it is explained to the patient that by bearing pain now a much more useful arm will result, cooperation is usually obtained. General diet is begun as soon as the post-anesthetic nausea ceases, and patient is allowed to get out of bed as soon as she feels like doing so.

Before undergoing a radical mastectomy, the patient should know that there will probably be a swelling of the arm on that side about six months after the operation which will be permanent. The extent of this swelling varies from one which is almost imperceptible to the massive lymphedema requiring amputation at the shoulder joint. Fortunately the latter is infrequent. Halstead taught that this was due to infection—but we see many cases which have severe infections and no swelling of the arm, and many others who have marked swelling but in whom no infection of the wound was noted.

The nerves supplying the lower skin flap are usually destroyed or at least injured. The practical importance of this is that unless warned the patient will burn herself, sometimes severely, by applying heat to the axilla, not realizing that she is unable to detect a burn. Sensation begins to return to these flaps in from six to ten months.

The primarily inoperable cases, i. e. those which are "operable" in the sense that all evidently diseased tissues can be surgically removed, but in which it is probable that all such tissues cannot be removed, may deserve a radical operation. For example, a carcinoma of the breast fixed to the chest wall with axillary metastases. Such a case should have a radical mastectomy performed, but should



FIG. 5.
Steiner Clinic case No. 3925. C. I. M. 40. Inflammatory type carcinoma. These cases should rarely be operated upon. The average length of life is six months longer with radiation therapy alone. This case died seven months after above photograph was taken and eleven months after she first noticed anything wrong with her breast. She received three cycles of high voltage x-ray treatments.

know before hand that the possibilities of a permanent cure are few.

The last group of cases we would discuss perhaps require more individual thought and decision than any of the others—i. e. the hopelessly involved case where it is obvious that all the diseased tissues cannot be removed, but in which a palliative operation may be helpful in making them more comfortable. Each case must be considered on its merits. Surgery is frequently brought into disrepute by operating upon one of these cases because the carcinoma is going to recur promptly and the patient die from it and the ever present cynics point to the surgical intervention as the cause of these early recurrences and death. A patient is entitled to the relief obtainable by a palliative operation, either a simple mastectomy or a radical one, if by so doing there be a greater probability of making her more comfortable than less so.

Conclusions

1. Laity cancer-conscious and demand and expect thorough, careful examination.
2. Complete history must be taken.
3. Thorough examination, following some systematic plan.
4. Differential diagnosis difficult, frequently impossible before biopsy.

5. All solitary nodules in breast should be removed.
6. Immediate pathological examination; if not possible and if any suspicion of malignancy, do a simple mastectomy at least.
7. Plan the amount and extent of surgical treatment for each individual case.
8. Palliative procedures procure promising results occasionally.

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TREATMENT OF PROGRESSIVE PSEUDOHYPERTROPHIC MUSCULAR DYSTROPHY*

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This paper is written to call attention to two of the newer methods of treatment of progressive muscular dystrophy, and to report a small series of cases treated by one of the methods. Also, to review forty-four cases examined at the Scottish Rite Hospital.

Until recently the most we have been able to do for these progressive muscular dystrophy cases has been to give them a mystifying diagnosis, and the parents a hopeless prognosis.

The patients are brought to the orthopedic surgeon because of a disturbance in locomotion. There is little satisfaction in telling the anxious parents that their almost normally appearing child has a slowly wasting disease that will render it a hopeless cripple in a few years, and that medical science has little to offer that will check the progress of the malady, and certainly nothing which will cure it.

Various forms of medication have been tried in the past with little success, but during the last three years stronger claims have been made for two of the newer methods. Sufficient data has been accumulated to make a consideration of these remedies timely.

Space will not permit a review of the "Wasting Diseases" but a few diagnostic points must be mentioned in order that we might differentiate the "dystrophy" cases from the "atrophies." These are two sepa-

rate and distinct conditions, which are frequently confused. In the "dystrophies" the muscles are involved primarily, while in the "atrophies" the lesion is somewhere in the nervous system. This differentiation can be expressed briefly by Table No. 1, which has been prepared chiefly from a lecture given by Dr. Lewellys F. Barker¹, in which he states: "In the dystrophies, the age of onset is in the early life. The distribution of the muscle involved is proximal in the extremities rather than distal. There is no fibrillary twitching. The incidence is often familial, and no spastic phenomena are observed. On the other hand, in the progressive (central) muscular atrophies the age of onset is in the middle or later life. The muscles involved in the extremities are the distal rather than the proximal muscles. The wasting is accompanied by fibrillary twitching of the muscles involved. There is, as a rule, no familial incidence. Associated spastic phenomena may sometimes be observed."

I. *Primary Myopathies.* (Dystrophies).

(a) The Pseudohypertrophic Paralysis of Duchenne.

The calves and hips and buttocks are enlarged. The muscles are firm to touch and elastic. Despite this enlargement the muscles are weak and the child tires easily and falls frequently. In attempting to rise from the recumbent position the child "climbs up his legs." If they are lifted from the axilla they fall through their shoulders. (Loose shoulders).

(b) The Facioscapulohumeral Type (Landouzy-Dejerine).

The pseudohypertrophy is not present. The wasting begins in the face and frequently extends to the shoulder, with wasting of all the muscles about the shoulder.

(c) Less Common Forms.

The Juvenile form of Erb, is like (b) except that the face is not involved. Only the shoulders are involved.

Leyden-Moebius type or Zimmerlin Type is similar in distribution to (a) but shows less enlargement of the muscles.

II. *Progressive (Central) Muscular Atrophies.*

(a) The Spinal Form.

The anterior horn cells of the spinal cord

*Read before the Medical Association of Georgia, Augusta, May 10, 1934.

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are involved, and there is a bilateral atrophy of the thenar and hypothenar eminences of the hand with fibrillary twitchings. (Aran-Duchenne Type).

(b) The Bulbar Form.

Degeneration begins in the cells of the motor nuclei of the cerebral nerves. The patients have difficulty in speaking, swallowing and chewing.

(c) The Spastic Form.

Here you have the clinical picture of the Aran-Duchenne atrophy combined with the spastic symptoms of a lateral sclerosis. This condition is usually designated "amyotrophic lateral sclerosis."

(d) The Neural Form of Progressive Muscular Atrophy. (Peroneal Atrophy). (Charcot-Marie-Tooth).

The peroneal muscles and the extensors of the toes are involved, giving an equinovarus deformity. Later the distal muscles of the upper extremities undergo atrophy. The lesions are probably in the peripheral nerves rather than in the cord. There may be pain and sensory disturbances. Also a familial incidence occurs.

Review of forty-four cases of progressive muscular dystrophy.

Incidence.—Fortunately the incidence is not high, but it is much more prevalent than is commonly supposed. It does not occur frequently enough, however, to permit any one person to see a large number of patients. Out of some 5,600 orthopedic patients treated at the Scottish Rite Hospital, we have examined forty-four patients with progressive pseudohypertrophic muscular dystrophy, and nineteen with progressive muscular atrophy, giving a little over one per cent for the two conditions and 0.8 per cent for the progressive muscular dystrophies. Hough² records twenty-seven cases in 2,800 admissions at the Shriners' Hospital for Crippled Children at Springfield, Mass. He estimates the incidence to be six per 100,000 total population, which would give about 175 cases for the entire state of Georgia.

All these patients were sent to the hospital with an incorrect diagnosis, the most common diagnosis being "infantile paralysis." Other diagnoses were: "progressive rheumatism," "paralysis of both legs,"

"spinal deformity," "dislocation of vertebrae," "lateral curvature of the spine," "stroke of paralysis," "muscular hypertrophy," and "spinal disease following a fall."

Sex.—It is interesting to note that all forty-four patients were males. Hough had no females in the twenty-eight cases he reported. Mettel and Slocum¹² report only one female in 48 cases. The older statistics vary, but it is usually stated that three or four boys are afflicted to one girl. In our cases when the girls were carefully examined, it was found that they belonged to the "atrophies" instead of the "dystrophies." The Progressive Muscular Atrophies in our series involved an equal number of boys and girls, which shows further that we are dealing with two separate conditions.

Hereditary History.—The study of the hereditary history is in keeping with what might be expected from the above. A definite statement concerning the family history was recorded in only 17 cases, and in eight of these there was a positive history of other cases in the family. From this study it seems that the disease is transmitted only through the females to the males. Voshell¹³ found this to be true in every case in his series.

Case reports illustrating hereditary history:

Case No. 1,746 had one brother who had progressive muscular dystrophy for twenty years and who died at the age of 37. The patient's mother has a sister, and all her boys have progressive muscular dystrophy.

Case No. 1,831 had one brother who died of a similar condition at the age of 13.

Case No. 2,181 had a maternal uncle who has similar trouble. He is now 28 years old and has not walked since he was fifteen. One maternal great uncle (maternal grandmother's brother) has a similar condition. He is still living at the age of fifty.

Case No. 3,093 had a maternal uncle who had a similar condition and who died at the age of seventeen.

Case No. 3,889 has a maternal uncle who is an invalid and who is said to have a condition similar to this patient.

Case No. 4,133 has two maternal first cousins who are paralyzed in their shoulders. These are daughters of the mother's sister. They are both married. It is stated that their trouble is somewhat different from what this patient has.

Case No. 2,875 has a brother aged seven who shows an early progressive muscular dystrophy. The mother has seven sisters, and only the children of one sister are affected. This sister had three boys and three girls.

The three girls and one boy are normal. One of the boys was a "chair case" for many years and died at the age of twenty of pneumonia. The other boy was weak in the legs and had much difficulty in walking, but was not totally incapacitated. He died at the age of eight of meningitis.

Case No. 5,267 is a brother of Case No. 2,875 just described above.

Age.—The age of the patients varied from 4 to 14, fourteen being the upper age limit for this hospital. The average age when the patient was first brought for observation was ten. The age of onset is given in 36 histories. In ten the condition is said to have been present since infancy. The average age of onset was 4 years. Ten, or 28 per cent, had symptoms during the first year, nine, or 25 per cent, developed symptoms between the first and third years, nine, or 25 per cent, between the third and fifth years. Eight, or 22 per cent, began between the fifth and fourteenth years. Therefore, three-fourths of the cases began to show symptoms before the age of five. Our cases confirm the observations of others, that the earlier the age of onset the poorer the prognosis.

Onset.—In six cases the disease was noticed for the first time following some other disease which had no connection with this disease. In three cases the onset of the disease was blamed on pneumonia, and in one case, it followed diphtheria, measles, and typhoid. Patients with progressive muscular dystrophy lose strength rapidly when their activities are restricted. For this reason casts and all forms of operative treatment are contraindicated.

First Symptom.—In ten cases it is said that the child had always been weak. Most of the cases were slow in walking. The exact age at which they walked was stated in 16 records, and this varied from 14 to 36 months, with an average of 20 months. The first symptom noticed in seven was that the child was clumsy. In six that they fell easily. If another child simply brushed against them in play they would fall, and would have much difficulty in getting up again. Three first attracted their parents' attention by walking on their toes. Three were brought in with the complaint that they were having trouble in going up steps. Two showed only a general weakness. Another was brought in because he "twisted as he walked." One two year old was brought because "he is too heavy to walk." Two tired easily, and one could not stand without holding to some support. When asked what was the trouble, one boy said that he could not "fight," and another that he could not throw a rock as far as he used to throw it. Another boy who had to walk two miles to school and on the way had to jump across a "branch," came in complaining that recently he has been "falling in the branch."

Other Symptoms.—The symptoms are not listed completely on all records, but on 24 it is stated that they "climbed up their legs," in 23 that the calves were enlarged, and in 15 that they fell through their shoulders. Ten were unable to walk when they were first brought for examination, having lost the ability to walk at the age of eight, on the average.

Treatment

In 1918 Janney, Goodhart and Isaacson⁴ called attention to the possible endocrine origin of progressive muscular dystrophy. They made a study of the metabolism in nine cases of progressive muscular dystrophy and found in addition to certain disturbances in the creatin-creatinin metabolism that there was observed a constant hypoglycemia and impaired utilization of carbohydrates. This confirmed the work of McCrudden and Sargent⁵. The metabolic picture presented is essentially the same as that recorded in diseases of unquestionable endocrine origin such as myxedema, hypopituitarism and Addison's Disease. They say, that from their investigations it seems justifiable to regard muscular dystrophy as a result of dysfunction of the ductless glands. Various other writers about this same time thought it was the result of a dysfunction of some of the endocrine glands, and reported improvement following the use of most of the glandular extracts.

Epinephrin and Pilocarpin Treatment

Barker¹ states: "The theory has been advanced that in the muscular dystrophies one link in the pathogenetic chain lies in a defect in innervation by the sympathetic nervous system. For some time we have known that the voluntary muscles of the body are doubly innervated; first, by the cerebrospinal nervous system (lower motor neurones) and, second, by the fibers derived from the vegetative nervous system. The axones of the lower motor neurones from the cerebrospinal nervous system end in the well-known motor end-plates that lie upon the striated muscle fibers. The axones of the sympathetic nerve fibers, however, end in minute terminals in the sarcoplasm between the muscle fibrils. The theory has recently been advanced that, in the muscular dystrophies, owing to a defect of sympathetic innervation of the sarcoplasm of the muscle fibers, it disintegrates with resultant muscular atrophy. Though we must await further corroborative evidence of this view it seems to be highly suggestive. . . . Recently, in the case of the dystrophies, it has been suggested that the atrophy of the sympathetic fibers might be due to insufficiency of the internal secretion of the suprarenal capsules, and that the regular administration of epinephrin might be helpful."

McCrudden and Sargent⁵ in 1916 reported improvement in a case treated with epinephrin and pituitrin. Ken Kure and Okinaka⁶ at the Imperial University of Tokyo,

in 1930 reported two cures and seven improved cases out of twelve cases in which they injected epinephrin and pilocarpin hypodermically to stimulate the autonomic innervation of the muscles and thereby improve their tone. The action of the pilocarpin is to stimulate the nerve endings of the parasympathetics. Attention was called in 1931 to their work by Hough², who treated sixteen cases. He recently⁷ reports results of treatment in 22 additional cases. Administration has been by daily hypodermic injection of 0.3 cc. of a sterile solution consisting of one part of 1 per cent solution of pilocarpin hydrochloride and two parts of 0.1 per cent (1:1000) epinephrin hydrochloride. The drugs have no incompatibility and may be dispensed together in a rubber capped vaccine bottle and the daily dose removed under aseptic precautions. He says that the injections have been of "symptomatic benefit in practically all cases." The treatment is not curative, but function has been markedly improved. He says that insulin in diabetes, and digitalis in heart conditions are not curative, but are used, and so should epinephrin and pilocarpin be used, even if not curative.

Voshell⁸ reports 16 cases in which he used this treatment. He also treated some with glycine; and some with both epinephrin and pilocarpin, and glycine. He says he obtained better results with epinephrin and pilocarpin alone.

Report of Six Cases Treated by Epinephrin and Pilocarpin

I wish to report briefly the results following the administration of epinephrin and pilocarpin in six cases of progressive muscular dystrophy, giving the results from one to two years after the completion of the treatment. Also two cases of progressive muscular atrophy treated by the same method.

Moving pictures were made of all the cases at the beginning of the treatment, in order to record the gait, and how the child rose from a recumbent position, and the use of its arms, so that a more accurate comparison could be made months or years later, and in this way, a better estimate of the value of the treatment might be made.

Case Reports

Eugene R. of Lawrenceville, Ga., was born in 1923. He has two maternal first cousins who are paralyzed in their shoulders. His mother says that he was not as "pert" as her other eight babies. She says that he had big arms and legs and that they thought that the

reason he did not walk was because he was too heavy. He learned to crawl at 18 months and to walk at 24 months. When the child was between four and five years old the "leg muscles began to dwindle down." When first seen at the age of seven he had difficulty in walking and fell frequently. He walks slowly and with difficulty, and holds to objects about the room at every opportunity. He walks on his toes, has a marked lumbar lordosis and climbs up his legs. Gastrocnemius muscles stand out prominently like the hypertrophied muscles of a toe dancer. All the muscles are weak, but there is no paralysis. The shoulder muscles are too weak for patient to lift himself on the extended arms. Examination a year later at the age of eight showed him to be much worse. He could get only his toes to the ground, and was barely able to walk. He quit walking shortly after he was eight years old. When next seen at the age of ten he could not come to a sitting position alone, but when placed in a sitting position could slide forward about an inch at a time, by swaying the trunk back and forth. When lifted by the arms the shoulders came to the top of the ears.

On November 22, 1932, the epinephrin and pilocarpin treatment was started, 63 injections being given by Dr. M. T. McDaniel. After thirty injections Dr. McDaniel wrote: "He seems to be gaining in weight and muscular action." Three months after the completion of the treatment the mother writes: "I can't tell much difference in him. He ain't no worse." When examined eight months after the treatment he could still slide along the table about like he did before. The mother said, "Before treatment he could not turn over in bed by himself, but now with hardly any help he can turn over on his side." The improvement did not seem to be enough to justify a second course of treatment. In a recent letter, written 15 months after the completion of the treatment, the mother says that he has just recovered from a severe attack of measles, and that he is very weak.

Ferris T. of Alapaha, Ga., was born in 1923. The parents do not remember when he walked, but they think he walked about the usual time. Nothing abnormal was noticed until the child was about three years old at which time it was noticed that he was walking on his toes, and that the legs were big in the calves, making the legs look small about the ankles, and causing the father to think there was something wrong with the ankles. It was not until he was four that the father noticed that he was weaker and that he was having trouble in getting up when he fell. Later he could get up only by "climbing up his legs." At eight he ceased to walk. The arms gradually became weak, but he is still able to feed himself. He was admitted to the hospital for study when a little past eight years of age. He could come to a sitting position but could not stand, even when placed on his feet. Had a large lipoma on chest wall and had a flexion deformity in the hips and knees, and equinovarus deformities of the feet. The patient also had hookworm infection and received treatment. The Wassermann and Mantoux tests were negative, and the blood examinations were within normal range.

He was given 60 injections of epinephrin and pilocarpin in the hospital, this being the first patient on whom it was tried. These were begun January 26, 1932. He lost one-half pound during his three months in the hospital, while most children gain several pounds during a three month stay. He says that he is better, but cannot state in what way he is better. The children on the ward think that he can get in and out of his wheel chair and handle it a little better than he did. When compared with movies made before treatment, there is no noticeable improvement. A recent letter from his father, a little more than two years after the completion of the treatment, says: "He is getting along just about like he was as far as I can tell. He may be a little worse but no better."

Elton L. of Atlanta, Ga., was born in 1925. He did not walk until he was 16 months old. Was brought in for examination when he was $6\frac{1}{2}$ years old because his "back is weak." He was repeating a year in the kindergarten because it was thought he was not strong enough to go on to the first grade. He is gradually having more trouble in walking and falls frequently. At the age of three it was noticed that the calf muscles were somewhat enlarged and quite hard. He is now able to walk across the room but hurries, so that he can catch to something to support himself. He gets up from the floor by "climbing up his legs" and has marked lumbar lordosis. When seen seven months later he was weaker and walked on his toes.

The epinephrin and pilocarpin treatment was started June 28, 1932, the patient being brought daily to the hospital for the injections. The patient received two complete courses of sixty injections each, with a month interval between the courses. The parents thought at first that there was some improvement, but later did not think so. He seemed to have more "pep" but had a little more difficulty in getting up as the time went on. When the movies which were made before treatment are compared with those made one year after treatment, it is quite evident that he is worse. He has more equinus deformity of the feet, and a great deal more trouble in getting up.

James T. of Gabbettville, Ga., was born in 1922. He was a healthy, normal looking baby, but did not walk until he was 20 months old. In learning to walk he was never able to get up in the middle of the floor, but always had to crawl to a support and climb up by holding to it. He was $2\frac{1}{2}$ years old before he could get up on his knees. He was always weak, but became worse about the age of nine. He was treated for seven months by a chiropractor. He always put his hands on his knees when he went up steps. At nine he had to crawl up steps. He was first examined here at the age of ten and walked with marked lumbar lordosis, only his toes touching the floor. He held to some support as quickly as he could get across the room. There was considerable enlargement of the calf muscles. He climbed up his legs, but could not get entirely up without catching to something to balance himself.

The patient lived 12 miles from the nearest doctor. There was a graduate nurse who lived near by, and she gave him 60 injections of epinephrin and pilocarpin. At the end of the treatment the mother writes: "It has not helped him at all. If anything, he is much worse than he was when we were up there." Examination a few months later showed that he was unable to walk, and that his feet were becoming more drawn and his back showed more marked scoliosis. A letter received recently, 18 months after treatment, says that he is fatter but unable to use his legs. He can still feed himself.

Leslie H. of McDonough, Ga., was born in 1912. The patient's mother has seven sisters, and one of these has three boys and three girls. The oldest of these boys had trouble in walking and fell frequently, and finally stopped walking and became a "chair case," and died at the age of 20 of pneumonia. The second boy was always weak and had trouble in walking but was never totally incapacitated. He died at the age of eight of meningitis. These are the only two children in the entire family affected, except the patient's younger brother who later developed progressive muscular dystrophy. There was nothing abnormal noticed in the patient during his early life. He was first seen here at the age of 14 when he was complaining of his feet hurting him and a diagnosis of flat feet was made, and proper shoes advised. The patient finished high school and one year in college. Seven years after he was treated for flat feet his brother was brought in for examination and showed a very early progressive muscular dystrophy. The parents were asked to bring the older brother back and he was found to have a very definite progressive muscular dystrophy. He was then unable to do any manual work. He threw his shoulders back and walked with a marked lumbar lordosis. The calf muscles were so hypertrophied that they were larger than the thighs. Because of muscular weakness, when he is sitting he can extend the lower leg against gravity only to within 45 degrees of full extension. He climbs up his legs in the typical manner.

The epinephrin and pilocarpin treatment was started in March, 1933, when the patient was 21 years of age. Sixty injections were given by Dr. R. L. Tye. Six weeks after the completion of the treatment the patient writes: "I have noticed some improvement and feel sure that it is definite. I have more strength and now it is very seldom that I fall." After an interval of two months the patient wanted a second course of treatment and took another 60 injections. He was examined two months after this second course and seemed slightly stronger. He says that he never falls and that he can get up out of a chair easier. He takes systematic exercises and thinks that his exercises have done him more good since taking the treatment. He is able to walk a mile daily to a lake and row for twenty minutes. When his method of getting up is compared with moving pictures made before treatment, there is no noticeable difference in the way he handles himself. A recent letter, a year after the beginning of treatment, says that his condition is no worse.

(The family also reports that his brother, who has had no treatment, is better.)

A. L. H. of Sargent, Ga., was born in 1924. There is no one in the family with a similar condition. He was slow in learning to walk, his mother does not remember the exact time, but is sure that he was clumsy and could not run as well as the other children. When between three and four years of age she noticed that the calves of his legs were "hard." At the age of five he would "rare back" when he tried to walk and his knees would give away, causing him to fall. By the age of seven he walked on his toes and could not get his heels to the ground. When he fell, he would climb up his legs or crawl to a support to get up. Shortly after he was seven years old he quit walking and has not walked since. He was first seen at the age of nine. When lifted by the arms the shoulders slipped up to the level of the ears. He is unable to come to a sitting position.

The patient was given 60 injections of epinephrin and pilocarpin by Dr. C. C. Elliott, beginning in August, 1933. After thirty injections Dr. Elliott wrote that "the child's general physical condition seems somewhat improved but I do not see much improvement, if any, in muscular activity." In a recent letter he says: "I really believe the child was greatly benefitted by the treatment." The patient has moved out of the state and we have not been able to get him back for examination, but the mother says she is sure that he is no worse.

The epinephrin and pilocarpin has been used in two cases of progressive muscular atrophy which will be reported here because of their interest.

Dessie Mae P. of Atlanta, Ga., was born in 1918. She was admitted at the age of three for the treatment of bilateral congenital dislocation of the hips. The x-rays show the dislocation before treatment and an excellent result following closed reduction. Casts were worn for seven months. It was five months after the casts were removed before she learned to walk with crutches. The photographs made at that time show that there was no enlargement of the calf muscles. A progressive muscular atrophy or dystrophy was not considered at that time. It was eleven months after the removal of the cast before she could walk alone. She returned at the age of 13 walking on the toes with the feet in marked equinus. There was a general atrophy of all the muscles. She swayed badly. The hips were in. She could not rise from the floor when lying down. It was with a great deal of difficulty that she was able to rise and stand when she was sitting in a chair. She was 33 pounds underweight. The arms were quite weak and she had a very weak grip in each hand.

The epinephrin and pilocarpin treatment was started March 29, 1932, the patient being brought daily to the hospital for the injections. The patient was also given exercise in the physiotherapy department. After 60 injections she felt that she was much improved. The grip in her hands was definitely stronger. She was now able to get up from the floor by holding to

stationary objects, which she could not do before. After six weeks she took a second course of 60 injections and felt definitely improved. Before treatment she could not walk more than half a block. After treatment she frequently walked eight blocks before tiring. When the movies made before treatment are compared with those made seven months later, it is seen that in trying to get up from the floor she can come up on her elbows and raise her chest from the floor which she could not do before. Three months after completing the second course of treatment, the patient was found one morning dead in bed. Even though the improvement in this case was slight the patient and parents were very much encouraged and pleased by the treatment, and all were made happier.

Lucile N. of Willacoochee, Ga., was born September, 1925. She walked at the usual time, and nothing abnormal was noticed until she was 4½ years old, when she began to limp and turn her ankles. Ankle braces were applied by the family physician, without any improvement in the condition. She was admitted at the age of 8½ walking badly with both feet in extreme equinovarus position. For the last two years she has walked only with crutches. There has been no enlargement of the calves. There is an atrophy of the muscles of the hands, but little change in the shoulders. She is able to get off the floor in the normal manner without climbing up her legs, but has to hold to something to maintain her balance on the deformed feet. This is a case of progressive muscular atrophy of the peroneal type. The deformities of the feet were corrected by operations and the patient had no special difficulty in learning to walk again without crutches. She was given epinephrin and pilocarpin while in the hospital. She had a severe reaction after the usual 0.3 cc. and vomited several times. The pulse was 160 and the patient perspired profusely. The following day she was given 0.15 cc. with no reaction. The same was true the next day. She was then given 0.3 cc. which caused a severe reaction. This was repeated again the next day with more nausea and vomiting. The treatment was then discontinued. This is the only patient in the entire series in which there was any reaction.

Comment.—In this series the one case of progressive muscular atrophy showed more improvement than did the progressive muscular dystrophy cases. From the experience of others³ the epinephrin and pilocarpin has been of no value in the "atrophies." The six cases of progressive muscular dystrophy, who have been followed from one to two years after treatment, showed a slight improvement during the course of treatment, but they have gradually grown worse since. It is difficult to say how much of the improvement might be psychic. When a child and its parents realize that it has a hopeless condition which is gradually growing worse, and have

been told that there is nothing that can be done, any treatment is welcomed. We must not forget that a daily trip to the doctor's office for a hypodermic injection of a "new" medicine affords a very powerful psychic stimulus. We should also remember that the disease frequently becomes stationary for variable periods, and it is impossible to say what the course of the disease would have been in any given case. Certainly, the disease has not been cured, and we cannot say with any degree of certainty that it has ever been arrested.

Glycine Treatment

During the last two years progressive muscular dystrophy has been treated by stimulating the muscle metabolism by feeding amino-acids. The effect of the amino-acids on the muscular metabolism can be studied by the creatin-creatinine excretion in the urine, as well as by the clinical results obtained.

Creatine ($C_4H_9N_3O_2$) is one of the normal constituents of muscle. It is generally believed that creatin, as phospho-creatin, serves to provide energy for muscular contraction. Creatinine ($C_4H_7N_3O$) is excreted constantly in the urine and is thought to be derived from creatine by the loss of a molecule of water. Variation in the diet of normal individuals does not effect the excretion of creatinine, so it is thought to be the end-product of the metabolism of living or organized protein tissue. In fevers and other pathological conditions in which there is an increase breaking down of tissues the creatinine excretion is increased.

Levene and Kristeller⁸ found that in progressive muscular dystrophy there was not only a low creatinine but also a high creatine output, and that an increase in the amount of protein in the diet in these patients increased the creatine excretion.

In 1929, Brand, Harris, Sandberg and Ringer⁹ reported that when glycine, the simplest α -amino-acid, ($CH_3NH\cdot COOH$) is fed, in addition to the diet, to a patient with progressive muscular dystrophy an appreciable increase in the creatine excretion takes place. This is verified by a later report¹⁰.

Milhorat¹⁰ confirmed this by giving phosphate and glycine to normal children and found that it had no influence on the crea-

tin-creatinine elimination. The same tests in 14 cases of progressive muscular dystrophy revealed that glycine regularly increased the creatine elimination, and phosphate and glycine increased it still more. Patients with secondary muscular atrophy, on the other hand showed no excessive creatinuria following the administration of glycine. Glycine acts on the metabolism of the resting muscle. During myopathias it is present in deficient quantities and its administration is therefore a casual therapy.

Rienbold et al¹¹ state that "increased excretion of creatine in the urine after glycine occurs not only in progressive muscular dystrophy but in a variety of other conditions in which the muscles may be involved." It seems that when there is a degeneration of the muscles, creatine cannot be utilized in the normal manner.

Beard and Tripoli¹² used glutamic acid instead of glycine because it was a slightly better creatine former in rats than glycine, and because it was less expensive and slightly less toxic. They found that in progressive muscular dystrophy cases there was a moderate increased excretion of creatinine and a marked excretion of creatine. This, they say, indicates a new formation of muscle creatine, resulting from the ingestion of amino-acids. After two or three weeks of the amino-acid therapy the increased creatinuria disappeared in all cases, indicating a retention of muscle creatine in the body.

In February, 1932, Milhorat, Techner and Thomas¹³ offered a new method of treating progressive muscular dystrophy. They found that when glycine was given these patients, in addition to increasing the creatinuria, there was a definite clinical improvement in most of their patients. At first there is usually a feeling of "crawling or rumbling" in the muscles, sometimes sufficient to disturb the patient's sleep. This is especially evident in the worse affected muscles. There is slowly a disappearance of fatigue. Gradually the function of the involved group of muscles is so improved that activity can be performed which had been impossible before the administration of this drug. Mettel and Slocum¹⁴ of Indianapolis, confirmed these findings and reported three cases, two of which showed

improvement and one only slight improvement. Chanutin, Butt and Royster¹⁵ at the University of Virginia, report the treatment of five cases with glycine. A six year old boy who walked on his toes and crawled up his legs, after two weeks treatment walked normally and rose without assistance. The typical complaint of pain and formication was noted. Others showed an improvement at first, but later became worse. Beard and Tripoli¹² of New Orleans had definite subjective and objective clinical improvement in their dystrophy cases.

Brand and Harris¹⁶ from the New York State Psychiatric Institute and Hospital, treated nine cases with varying amounts of glycine over a prolonged period. They found that the creatine excretion rose promptly and was maintained at this higher level throughout the glycine feeding period. The creatinine excretion, however, remained practically unchanged. None of the favorable therapeutic effects noted by others were observed in their cases. Some of the cases stopped walking while under the treatment. Neither did the patients have the muscle sensations described. Boothby¹⁷ at the Mayo Clinic has treated several cases of muscular dystrophy with glycine and indicates that there was only a questionable, if any, improvement. Harris and Brand¹⁸ in a later report state, "None of our patients with muscular dystrophy receiving glycine therapy have as yet shown any striking improvement, such as reported by Thomas, Milhorat and Techner¹⁹, and Kostokow and Schlauch²⁰. They state that the variable results are probably due to difficulties in differentiating the various types of muscular disease. Glycine therapy does not help the "atrophies," hence it is important to make a correct diagnosis.

Reinhold et al¹¹ made a careful study of nine cases after glycine feeding for periods as long as 14 months and found little tangible evidence of improvement in muscular function. Biopsies were obtained from muscles before and after treatment and these showed a distinct improvement and are thought to be a more sensitive guide to effects of glycine therapy than muscle function. (This confirms the findings of Milhorat¹⁰.) High protein diets, beef extract and

gelatin proved to be helpful supplements to glycine. Ephedrine was of value in one case.

Mendelson²¹ has recently reported the use of Cortin (Eschatin, P. D. & Co.) in one case diagnosed as progressive muscular dystrophy in which he obtained an excellent result. The history suggests that this is probably a case of progressive muscular atrophy.

Glycine treatment in the past has been almost prohibitive in a charity hospital because of the cost of the drug. Originally it cost \$120.00 a pound. It can be obtained through the wholesale drug houses for about ten dollars a pound. One variety is prepared by Merck & Company under the name of Glycocol.* The dose is 5 grams dissolved in water, given by mouth three times a day. Merck informs me that three level teaspoonfuls is equivalent to 5 grams. Glautanic acid as recommended by Beard and Tripoli can be had at \$5.50 a pound. (Calco Chemical Co., Bound Brook, N. J.)

Gibson and Martin²² in 1921, in making some observations on a case of progressive muscular dystrophy found that a high protein diet caused an increase in the excretion of creatine. They also observed that when 50 to 55 grams of gelatin was substituted as part of the 75 grams of protein diet, there was the same if not greater increase in the creatine excretion. The analysis of Knox Gelatin shows that it contains 25.5 per cent of pure glycine and 5.8 per cent of glautanic acid. For the past year or more we have been insisting on all our progressive muscular dystrophy cases eating as much as they will of some form of gelatin every day. Some have been doing this faithfully, and claim that they are feeling better. Not enough accurate data has been obtained on these cases to warrant a statement at this time concerning its value.

In addition to the dietary and medical treatment patients with progressive muscular dystrophy will be helped by massage and exercises, but these must not be carried to a point of fatigue. Every effort should be

*As pointed out by Quick (Jour. Amer. Med. Assn. 99:57, July 2, 1932) glycine or glycocol must not be confused with the photographic developer sold under the trade name of "glycin" which is distinctly poisonous and according to a notice in the Photographic Review of Sept. 1932, published by the Eastman Kodak Stores, Inc., has already resulted in an unfortunate occurrence.

made to prevent deformities, and physiotherapy should be directed to strengthen the weaker groups of muscles. If scoliosis is present a supporting corset will make walking and sitting easier. Occupational therapy is helpful.

	Progressive Muscular Dystrophy	Progressive Muscular Dystrophy
Onset.	Very early in life.	Middle or late life.
Distribution of muscles in which wasting occurs.	Proximal.	Distal.
Presence of Fibrillary twitching.	No.	Yes.
Familial Incidence.	Yes.	No.
Association of Spastic Phenomena.	No.	May be present.
Sex.	Males, chiefly.	Equally divided.
Creatinuria following the administration of Glycine.	Yes.	No.

TABLE NO. 1

The points of differential diagnosis between the "Dystrophies" and the "Atrophies."

Summary

The points of differential diagnosis between the "dystrophies" and "atrophies" have been outlined, because these are two separate disease entities, and require different forms of treatment. A review has been made of forty-four cases of progressive muscular dystrophy. It is interesting to note that all were males. The hereditary history of eight cases show that in this series the disease was transmitted through the females to the males. Three-fourths of the cases began to have symptoms before the age of five. The earlier the onset the poorer the prognosis. Any illness which confines the patient to his bed or restricts his activities, causes an increase in the severity of the symptoms. Hence casts and operative treatments are contraindicated.

Six cases of progressive muscular dystrophy were treated with epinephrin and pilocarpin. These have been followed from one to two years. They showed a temporary improvement while under treatment and developed a certain amount of euphoria. We cannot say with any degree of certainty that a single case was arrested for a longer period of time than we sometimes see in untreated cases. Certainly none were cured.

For the last two years progressive muscu-

lar dystrophy patients have been helped by feeding them glycine and other amino-acids. The literature has been reviewed, and the results, obtained by the various workers, warrant the further use of the amino-acids. Since there is so little that can be done for these unfortunate children, attention is called to these two new methods, in the hope that they will be used by the family physician, and that these little fellows will be given the benefit of the assistance offered by these new drugs.

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THE JOURNAL

OF THE

MEDICAL ASSOCIATION OF GEORGIA

Devoted to Welfare of Medical Association of Georgia

139 Forrest Avenue, N.E., Atlanta, Ga.

FEBRUARY, 1935

Resolutions Adopted by the Special Session of the House of Delegates of the American Medical Association. Chicago, February 15-16, 1935.

The primary considerations of the physicians constituting the American Medical Association are the welfare of the people, the preservation of their health and their care in sickness, the advancement of medical science, the improvement of medical care, and the provision of adequate medical service to all the people. These physicians are the only body in the United States qualified by experience and training to guide and suitably control plans for the provision of medical care. The fact that the quality of medical service to the people of the United States today is better than that of any other country in the world is evidence of the extent to which the American medical profession has fulfilled its obligations.

The House of Delegates of the American Medical Association reaffirms its opposition to all forms of compulsory sickness insurance whether administered by the Federal government, the governments of the individual states or by any individual industry, community or similar body. It reaffirms, also, its encouragement to local medical organizations to establish plans for the provision of adequate medical service for all of the people, adjusted to present economic conditions, by voluntary budgeting to meet the costs of illness.

The House of Delegates recognizes the necessity under conditions of emergency for federal aid in meeting basic needs of the indigent; it deprecates, however, any provision whereby federal subsidies for medical services are administered and controlled by a lay bureau. While the desirability of adequate medical service for crippled children and for the preservation of child and maternal health is beyond question, the House of Delegates deplores and protests those sections of the Wagner Bill which place in the Children's Bureau of the Department of Labor the responsibility for the administration of funds for these purposes.

The so-called Epstein Bill, proposed by the American Association for Social Security now being promoted with propaganda in the individual states, is a vicious, deceptive, dangerous and demoralizing measure. An analysis of this proposed law has been published by the American Medical Association. It introduces such hazardous principles as multiple taxation, inordinate costs, extravagant administration and an inevitable trend toward social and financial bankruptcy.

In the establishment of all plans, county medical societies must be guided by the ten fundamental principles adopted by this House of Delegates at the annual session in June 1934. The House of Delegates would again emphasize particularly the necessity for separate provision for hospital facilities and the physician's services. Payment for medical service, whether by prepayment plans, installment purchase or so-called voluntary hospital insurance plans, must hold, as absolutely distinct, remuneration for hospital care on the one hand and the individual, personal, scientific ministrations of the physician on the other.

The House of Delegates suggests that the Board of Trustees request the Bureau of Medical Economics to study further the plans now existing and such as may develop, with special reference to the way in which they meet the needs of their communities, to the costs of operation, to the quality of service rendered, the effects of such service on the medical profession, the applicability to rural, village, urban and industrial population, and to develop for presentation at the meeting of the American Medical Association in June model skeleton plans adapted to the needs of populations of various types.—*Abstract.*

The House of Delegates commends the Board of Trustees and the officers of the Association for their efforts in presenting correctly, maintaining and promoting the policies and principles, heretofore established by this body.

The medical profession has given of its utmost to the American people, not only in this but in every previous emergency. It has never required compulsion but has always volunteered its services in anticipation of their need.

The JOURNAL would like to record the scientific work of Georgia doctors. It earnestly requests, therefore, that each physician in the State who publishes a contribution in some other medical periodical submit an abstract of the article for these columns.

RADIO WAVES
Eighth Edition

- "Because you can not enlist the support of the profession 100%, do not imagine the interest in organized medicine is on the decline."—*Ayers*.
- "Try being unusually loyal to your county society, to your state Association, and to your profession during the year 1935."—*Paullin*.
- "See that all eligible physicians in your county become members of the county medical society and of the Medical Association of Georgia."—*Elliott*.
- "Brain work and leg work are both necessary for success in the practice of medicine."—*Bunce*.
- "Suffering persistent imposition with patience is not a virtue; it more often is cowardice."—*Simmons*.
- "A doctor is paid for what he knows; and 'learning is a matter of vigorous personal effort'. Better QUALITY and SERVICE are always appreciated and bring better prices and more business. Are you short on patronage?"—*Thompson*.
- "Doctors should construct the 'New Deal' in medicine."—*Redfearn*.
- "In handling the patient, including rendering the bill, we should put ourselves in his shoes."—*Patterson*.
- "It's great to have an opportunity, but greater to see it."—*Wall*.
- "Make your local county society what it should be and you won't have to worry about the Medical Association of Georgia."—*Hunt*.
- "Our mistakes, if properly observed, are our chief danger signal against a future calamity."—*McCord*.
- "Keep your county society active and you will have more efficient doctors."—*Penland*.
- "Stick your heels in the mud and push for you can't get anywhere by slipping and sliding."—*Coker*.
- "Let us remember that 'The wisdom of medicine is greater than that of any one man'."—*Lewis*.
- "Unexplained substernal, epigastric or precordial pain should be considered due to coronary thrombosis until proved otherwise."—*Bancker*.
- "Let's make the Eighty-Sixth session of the Medical Association of Georgia the largest in its history."—*Dougherty*.
- "A skillfully elicited history makes more diagnoses than instruments."—*Massee*.

Nearly sixteen thousand bushels of apples bearing poison residues exceeding safe limits, were seized in November, the Food and Drug Administration reports. The fruit had been shipped from the producing states of New York, Michigan, Illinois, Missouri and Other Central States. One shipment of cauliflower was seized for the same violation. One thousand cases of Portuguese sardines and a shipment of "lekvar," a fruit spread, both found to contain dangerous amounts of lead, were also seized.

AMERICAN COLLEGE OF SURGEONS

Tentative Program for Sectional Meeting

The sectional meeting of the American College of Surgeons for Alabama, Florida, Georgia, Louisiana, and Mississippi will be held at Birmingham, Alabama, March 7-8, 1935. Tutwiler Hotel will be headquarters.

Thursday, March 7, 1935

- 8:00- 9:00 A.M.—Registration.
9:00-12:00 A.M.—Clinics.
9:00-12:00 A.M.—Hospital Conference.
12:30- 2:00 P.M.—Medical Motion Pictures.
2:30- 5:00 P.M.—Hospital Conference.
5:00- 5:30 P.M.—Annual Meeting of the Fellows of the College.
7:00- 8:30 P.M.—Subscription Banquet.
8:30-10:30 P.M.—Scientific Meeting, General Surgery.
8:30-10:30 P.M.—Scientific Meeting, Eye, Ear, Nose and Throat Surgery.

Friday, March 8, 1935

- 9:00-12:00 A.M.—Clinics.
9:00-12:00 A.M.—Hospital Conference.
12:30- 2:00 P.M.—Medical Motion Pictures.
2:30- 5:30 P.M.—Scientific Meeting, General Surgery.
2:30- 5:30 P.M.—Scientific Meeting, Eye, Ear, Nose and Throat Surgery.
2:30- 5:30 P.M.—Hospital Conference.
8:00-10:00 P.M.—Community Health Meeting.

EDWARD O'CONNELL, M.D., Sec'y.
Birmingham, Alabama.

In reference to *Compulsory Health Insurance*, Frederick L. Hoffman, LL.D., Philadelphia, Pa., in part writes in *California and Western Medicine*, December, 1934, Vol. 41, No. 6, 450 Sutter Street, San Francisco, Calif., as follows: Advocates of social insurance for this country, or for any one of its separate states, never fail to betray a colossal ignorance of the workings of the system in foreign countries which have adopted it. Thus the statement that every civilized country except the United States has adopted social insurance is grossly misleading. Canada, for example, has not done so, and neither has a single one of the great South American Republics. Australia has not done so, neither has South Africa. In all these countries strenuous efforts are under way to bring about its adoption on the basis of alleged benefits, all of which are more or less questionable.

How Doctors Help Industry was the subject of an address on the Ford Sunday Evening Hour, Nov. 18, 1934, by W. J. Cameron, broadcast over the Nation-Wide Network of the Columbia Broadcasting system from Orchestra Hall, Detroit. Mr. Cameron mentioned many things the doctors have done to prolong people's capacity for earning, also the millions of dollars saved to industry by the medical profession.

GEORGIA DEPARTMENT OF PUBLIC HEALTH

T. F. ABERCROMBIE, M.D., *Director*

CLASSIFICATION OF WASSERMANN REACTIONS BY RACE, SEX, AGE AND OCCUPATION OF PATIENTS

Five Year Period—1929-1933, Inclusive

Thinking that the medical profession would be interested in the work done by the laboratory of the State Department of Health, the following study has been made and is presented for the consideration of the physicians of our state in the hope that it will serve as helpful information.

The laboratory freely supplies information forms and requests physicians to use them for giving data relative to specimens submitted to the laboratory. These forms, after having date, serial number and results of examinations entered thereon, are bound and kept for five years as a part of the laboratory records. Carbon copies of the reports issued to the physicians are kept indefinitely.

The primary purpose of these laboratory specimen forms is to provide a source from which studies can be made which involve a large number of specimens. These forms have been in use a number of years, but the ever increasing routine examinations had precluded the study of this data, except in a very general way. Consequently a request was made on the local relief organization for a project calling for a sufficient number of clerical workers to extract and classify data from some 200,000 Wassermann laboratory forms. These authorities very obligingly furnished this clerical service.

This study was confined to the race, sex and occupation of the patients. The work was checked in different ways to insure accuracy of results. The number of forms reviewed was 220,555, but since some did not carry the data sought, only 209,795 are embraced in the classification by race, sex and age groups presented below.

We find that of the specimens examined, 64 per cent were for white and 36 per cent for colored patients. There were more males examined in the white race, but in the colored race the females predominated. The infection indicated in the colored race is about three times that indicated in the white race. The white females show the lowest percentage of positive reactions, while the colored males show the highest. In the whites the

difference of positive reactions between the male and female is about two per cent, while in the negroes the difference is less than one per cent. It is interesting to note that there is but little difference shown in the positive reactions encountered in the children of the two races. These and many other interesting comparisons can be made by studying the tabulation in detail.

Only 136,278, or approximately 65 per cent of the forms studied gave the occupation of the patient. This, however, is sufficiently large to be representative. These occupations have been divided into general groups and then subdivided into vocations and arranged in alphabetical order as presented below.

INCIDENCE OF POSITIVE WASSERMANN REACTIONS CLASSIFIED BY OCCUPATION OF PATIENTS

	Total	Positive	Per Cent (approx)
<i>Barber—Beauty Shops</i>	6,525	624	10
Barbers	5,180	540	10
Beauticians	1,316	75	6
Manicurists	29	9	31
<i>Clerical Workers—</i>	7,932	1,090	14
Bookkeepers	632	63	10
Clerks	5,550	834	15
Office Workers	327	42	13
Postal Employees	384	72	19
Secretaries	112	4	4
Stenographers	898	74	8
Others	29	1	3
<i>Farmers—</i>	15,781	3,146	20
<i>Food Handlers—</i>	9,011	2,741	30
Bakers	171	33	19
Bottlers	22	5	23
Butchers	373	52	14
Candy Makers	164	35	21
Cooks	4,683	1,927	41
Counter Girls	163	5	3
Dairy Employees	806	94	12
Dishwashers	105	33	31
Food handlers, not specified	317	62	20
Ice Distributors	125	41	33
Grocers	350	48	14
Restaurant Employees, not specified	1,564	386	25
Soda Dispensers	168	20	12
<i>Home—</i>	31,322	5,804	19
Housewives	31,130	5,765	19
Prenatal	192	39	20

<i>Industry—</i>	13,504	2,236	17	<i>Servants, Domestic—</i>	4,725	1,656	35
Bus Drivers	62	15	24	Chauffeurs	437	149	34
Electrical Employees ..	1,772	136	8	Janitors	443	140	31
Elevator Operators	82	22	27	Maids	2,272	847	37
Laundry	1,331	450	34	Nursemaids	734	269	37
Mine Workers	37	4	11	Servants, not specified	553	175	32
Manufacturing Plants ..	516	106	21	Washwomen	148	51	34
Naval Stores	257	78	30	Yardmen	138	25	18
Railroad	1,774	378	21	<i>School Children—</i>			
Lumber Industry	436	97	22	Students	8,215	732	9
Telegraph	119	7	6	<i>Miscellaneous—</i>	6,489	1,727	27
Telephone	318	46	14	Custodians—Guards ..	200	37	18
Textile	6,755	890	13	Delivery Boys	207	59	29
Others	45	7	16	Filling Station			
<i>Labor, Common—</i>	12,581	4,055	32	Employees	290	67	23
<i>Labor, Skilled</i>	5,840	1,213	21	Firemen, not specified..	499	51	10
Blacksmiths	101	23	23	Govt. Employees	221	55	25
Brick Masons	161	35	22	Newspaper Employees	134	18	13
Carpenters	863	191	22	Officers of the Law....	647	76	12
Cement Workers	27	8	30	Porters	1,117	403	36
Decorators	35	3	9	Prisoners	1,168	426	36
Electricians	432	82	19	Taxi Drivers	259	77	30
Machinists	280	45	16	Truck Drivers	853	241	28
Marble Cutters	115	21	18	Others	894	217	24
Mechanics	2,088	438	21				
Moulders	87	20	23	TOTAL	136,278	27,162	20
Painters	547	122	22				
Plasterers	110	29	26				
Plumbers	166	31	19				
Printers	325	64	20				
Shoe Makers	130	29	22				
Sheet Metal Workers ..	68	19	28				
Steam Fitters	59	11	19				
Steel Workers	87	16	18				
Tailors	83	14	17				
Upholsterers	76	12	16				
<i>Mercantile Business—</i>	6,608	1,078	16				
Merchants	1,843	264	14				
Salespeople	4,765	814	17				
<i>Midwives—</i>	3,724	601	16				
<i>Professional—</i>	4,021	459	11				
Bankers	164	21	13				
Chemists	52	11	21				
Dentists	92	9	10				
Druggists	244	31	13				
Lawyers	233	30	13				
Musicians	117	21	18				
Physicians	150	13	9				
Nurses, Registered	376	13	3				
Preachers	280	44	16				
Teachers, School	1,489	134	9				
Undertakers	132	30	23				
Others	39	2	5				
<i>Semi-Professional—</i>							
Architects	24	2	8				
Brokers	77	9	12				
Contractors	370	50	14				
Engineers, Civil	42	6	14				
Hospital Attendants ..	73	26	36				
Jewelers	38	2	5				
Photographers	29	5	17				

The domestic servant group leads with 35 per cent positive reactions, closely followed by the common labor and food handlers groups. The farm and the home groups show 20 and 19 per cent, respectively, while the school children—student group, is lowest with 9 per cent. Cooks lead the individual occupations with 41 per cent positive reactions. Space does not permit a lengthy discussion of comparisons that might be made from such a tabulation. This is left for the reader as his interest may direct him.

These represent patients who for some reason came under the examination of a physician. Just how large a cross section of the people receiving medical attention this represents, we can not tell. We cannot say that this is a representative cross section of our population as a whole, but at the same time it does point out the relative incidence of syphilis in different occupations, since the same factors brought these patients to the physician. Quite a number of these positive reactions may be repeated cases, but, on the other hand, it must be borne in mind that serological examinations do not detect all cases of syphilis.

It may be interesting to note that, according to the above classification, barbers and beauticians show 10.4 per cent positive reactions. It will be recalled that 35 per cent of the specimens received do not carry the occupation of the patient. Hence the State Board of Barber Examiners, who require the serological report to accompany the application

STATE DEPARTMENT OF PUBLIC HEALTH

WASSERMANN REACTIONS

By Race, Sex and Age Groups

		A. 217 2.0%	
		B. 9,740 88.7%	
		C. 1,020 9.3%	
		Positive 13.9%	
		Negative 86.1%	
78,884		A. 2,948 4.3%	
Male 58.7%		B. 57,819 85.1%	
		C. 7,140 10.6%	
134,334		A. 141 2.1%	
White 64%		B. 5,853 88.8%	
		C. 598 9.1%	
		Positive 11.8%	
		Negative 88.1%	
55,450		A. 2,626 5.4%	
Female 41.3%		B. 40,152 82.2%	
		C. 6,080 12.4%	
209,795		A. 128 1.0%	
Total		B. 12,231 93.7%	
		C. 688 5.3%	
		Positive 36.3%	
		Negative 63.7%	
35,971		A. 977 4.3%	
Male 47.7%		B. 20,349 88.8%	
		C. 1,598 6.9%	
75,461		A. 260 1.9%	
Colored 36%		B. 13,007 92.7%	
		C. 763 5.4%	
		Positive 35.5%	
		Negative 64.5%	
39,490		A. 1,162 4.6%	
Female 52.4%		B. 22,827 89.7%	
		C. 1,471 5.7%	

A.—14 years and under.

B.—15 years and above.

C.—Not specified.

for license, report a much larger number for this occupation, but with approximately the same percentage of positive reactions, namely—10.7. This shows that the above tabulation is representative cross-section as applies to this particular group.

We appreciate that these classifications in some instances lend themselves to criticism as to the prevalence of syphilis in this or that group or occupation. Furthermore, we are aware that arguments can be presented that would tend to disrupt deductions that might be drawn from such presentation as to the existence of syphilis. We are convinced, however, that this disease is more widespread in our state than is generally believed.

As suggested above, we are not attempting to accurately establish the incidence of syphilis in any group or of the population of our state as a whole from the foregoing compilations. Our conclusions simply apply to the examination of specimens received from many and various sources during this five year period.

E. L. WEBB,
Serologist.

PUBLISHER'S STATEMENT OF CIRCULATION

This is to certify that the average circulation per issue of the Journal of the Medical Association of Georgia for the six months' period, July 1st to and including December 31st, was as follows:

Copies sold	1661
Copies distributed free	73

Total	1734
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H. L. ROWE, *Business Manager.*

Subscribed to and sworn before me this 21st day of January, 1935, Ethelene Hale, Notary Public, Georgia, State at Large.

MULTIPLE BONE ABSCESES

Report of Case

ENOCH CALLAWAY, M.D.
LaGrange

History

A boy, sixteen years old, complained of severe pain in the left forearm for the past two weeks. He had suffered a similar pain in the left forearm three years ago and had been treated for muscular rheumatism. Since the first attack he had occasionally noticed dull pains in this arm.

Physical Examination

Examination disclosed a temperature of 101 degrees and a pulse of 115 per minute. The left forearm was swollen and tender over the radius. The roentgenogram showed two areas of localized infection in the

radius. (See photograph). This finding was confirmed by operation, the bone between the two abscesses being sound and free from infection.



The above illustration shows two separate and distinct areas of localized abscess formation in the radius.

Comment

I have been unable to find any reference in the literature about two Brodie's abscesses occurring at the same time in one bone.

WOMAN'S AUXILIARY

OFFICERS

President—Mrs. J. E. Penland, Waycross.

President-Elect—Mrs. E. R. Harris, Winder.

First Vice-President—Mrs. Ralph H. Chaney, Augusta.

Second Vice-President—Mrs. J. M. Barnett, Albany.

Third Vice-President—Mrs. G. Hugo Johnson, Savannah.

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Chairman Press and Publicity—Mrs. J. Bonar White, Atlanta.

Chairman Legislation—Mrs. Dan Y. Sage, Atlanta.

HEALTH EDUCATION

As your Health Education Chairman I wish to give a brief report of what has been accomplished thus far. Also, to make two suggestions how each individual member may help with this work.

Many of you know that the health educational material has been divided and distributed to the Health Chairman of each district. These chairmen have, in turn, sent the material to the following organizations, who are using it as a basis for their health programs in the dissemination of authoritative health information: to the Woman's Auxiliaries; to Parent-Teacher Associations; to individual schools, especially in Fulton, Chatham, Richmond, Barrow, Jackson, Ware, Dougherty, Sumter, and Bulloch counties; to the schools at LaGrange, Atlanta, Augusta; to the Business and Professional Women's Clubs; to Public Health Nurses; to the Child Welfare and Social Welfare organizations; to Y. W. C. A. workers; and to home demonstration agents; to Red Cross classes; to Parent-Teacher Study groups.

It would appear from the above, that our program material is reaching many groups in our population but there still remain some groups and some women especially, who are not reached at all. Each one of us know of at least one or more such instances. They are the women who do not care for club work and those who dislike meetings except purely social gatherings. My present suggestion is this: give each of these friends of ours a complete set of our material to read at her leisure. She may read and discuss it with her friends just as readily as she does that which she reads in the popular magazines. Is it not better that she get her information from an authoritative source? *Try it.* My second suggestion is still more personal: find out whether your husband has read our program material and if you can, what his reaction to that program is.

Note to County Presidents. Please see that your members have our material and know how to use it. Ask them to tell each organization of which they are members about our Mother Welfare material and program and ask them to have such a program, the Auxiliary to supply the speaker and material. Each county Auxiliary should have a program to which the executive board of every women's organization in the county is invited. At it, the program may be handled by three or more physicians. Suggested program is:

1. Call to order and greetings by the Auxiliary President.
2. Introduction of the medical society president.
3. Introduction of the Chairman of Health Education (if Society has one).
4. Addresses on Maternal Mortality and Care;
Infant Care, including immunizations;
Cancer of breast, uterus, stomach, or rectum;
Cancer in children.
5. A health film. "Man Against Microbes" is good. Perhaps the local medical society will have one or suggest one.
6. Information about health material to be distributed at the meeting.
7. Recommendation that each organization have a similar program for its members. Distribution of material with suggestion for use.
8. A brief explanation of what the Auxiliary is doing to promote better education, through the medical profession.

Fulton county is preparing such a meeting for February 14th. Any information may be secured from the State Chairman, Mrs. Bancker.

MRS. RALPH H. CHANEY, *Chairman.*
Augusta.

Study Envelopes

Two new study envelopes may be secured from the National Auxiliary, Mrs. A. B. McGlothlan, 821 N. 24th Street, St. Joseph, Mo. Number 6 is on Milk, number 7 on Prevention of Blindness. They are excellent and are available by paying, C. O. D., the postage.

The Bureau of Public Instruction has 70 collections of clippings on various subjects that may be borrowed by members who want to write papers. May be kept ten days and borrower pays return postage. A set of five articles on social hygiene topics: "A Child is to be Born"; "Keeping Your Baby Well"; three pamphlets on T. B.: "Children Who Might Live"; "Immunization"; "Vaccination"; are also obtained from the Bureau. Address Dr. W. W. Bauer, 535 North Dearborn Street, Chicago.

Ask Mrs. Penland to send you the convention report for 1934. It has all the committee and state reports.

Be sure to read the Auxiliary pages of the A. M. A. Bulletin.

From the Message of Mrs. McGlothlan in the A. M. A. Bulletin.

"Why have most of the state auxiliaries been approved by medical societies? Why have hundreds of county societies sanctioned local auxiliaries? Could the medical associations not resist request from the women to organize? No one who is a doctor's wife could be led to believe that the men were so accustomed to granting their wives' whims that they could have yielded in an action which they feared might compromise their beliefs or practices.

"We, who are near the heart of the auxiliaries and know of their activities and of the relationships which they bear to the medical societies, know that those with which the societies cooperate are accomplishing valuable educational work through other organizations with which they are allied, and that they are helping to bring about cooperative relationships between lay groups and the medical profession in those phases of education in which both are interested. Members of auxiliaries have accomplished results in helping to establish in the minds of their lay associates the idea that the medical profession is the ultimate source from which should come authoritative information about disease control and health promotion.

"The doctors who sanction the organization should extend friendly guidance and cooperation and should remember that a few

words of approval for work well done, will do much to produce the results they desire."

Bibb County

Bibb County Auxiliary reports fine monthly meetings. Twenty-five dollars have been sent the Student Loan Fund; and an insurance policy paid. A toy shower was given the children at Macon Hospital, Christmas. Preparations for the celebration of Doctors' Day are now being made.

Barrow County

Barrow County Auxiliary secured the promise of its representative and senator in the Georgia legislature to support the legislation sponsored by the Medical Association of Georgia. When the Child Health and Welfare Association of Barrow County was organized in November, Mrs. E. R. Harris, and Mrs. C. B. Almond were appointed chairmen of public health committees. They hope through this committee to increase immunizations against diphtheria, smallpox and typhoid.

Mrs. W. T. Randolph and Mrs. C. B. Almond, chairmen of Public Welfare of the Barrow Women's Club, presented Dr. S. T. Ross to the members, recently. Dr. Ross gave a very comprehensive and interesting talk on "Communicable Diseases."

Auxiliary members are very active in other organizations. Mrs. Harris, President, is President of the Woman's Club; Mrs. R. P. Adams, Chairman of Student Aid in Woman's Club; Mrs. S. T. Ross, District Chairman of History; Mrs. E. R. Harris, Chairman of Motion Pictures of Ninth District Clubs, and First Vice-President of American Legion Auxiliary.

Washington County

Washington County Auxiliary also reports very pleasant meetings. It meets quarterly at the home of members. It has been emphasizing Child and Mother Welfare, Conservation of Eyesight, and Student Loan Fund. It is studying medical heroes and heroines. It cooperates with the county health officer and nurse in all calls, and promoted the sale of seals in the county. On January 3rd the Rawlings Sanatorium entertained the Medical Society and Auxiliary and Dr. Kelly Joseph, of Alto, gave a pertinent talk on Tuberculosis, illustrated with slides.

The President, Mrs. J. B. Dillard, has prepared two papers, "Sight Conservation," "Progress in the Medical World." Each year,

Mrs. Dillard writes interesting articles for her auxiliary papers which show careful reading and preparation.

Ware County

The Ware Auxiliary had its annual meeting in January and elected Mrs. T. J. Farrell President; Mrs. D. M. Bradley, Vice-President; Mrs. C. A. Witmer, Secretary; Mrs. K. McCullough, Treasurer; Mrs. W. D. Mixson, Parliamentarian. Educational programs for the Auxiliary and for others occupy the attention of members. In January, the Auxiliary assisted in the Roosevelt Birthday Party.

Chatham County

The annual report of the Georgia Medical Society Auxiliary was splendid. Most of the outstanding activities have been reported here during the year. Recent ones include a birthday party in January by Mrs. Lee Howard, for the little boy at the Sunshine Unit. The Auxiliary sent clothes, money for books and a Christmas box to "its" boy at Berry School. Five dollars was given to the Health Film Fund. It was represented at all meetings of the Health Center. Miss Helen Bond, Supervisor of the Health Center, made an instructive talk on the "New Baby and Mother Under the Public Health Nursing Work" at this meeting. Mrs. G. Hugo Johnson was re-elected President, with Mrs. A. A. Morrison, Vice-President; Mrs. C. R. Riner, Second Vice-President; Mrs. S. Elliott Wilson, Corresponding Secretary; Mrs. H. N. Kandle, Recording Secretary; Mrs. C. G. Redmond, Treasurer.

Fulton County

Fulton County Auxiliary is awaiting the results of an enrollment campaign. Letters explaining the work of the Auxiliary were sent every eligible woman in the county.

The Auxiliary served supper to the Medical Society and its guests January 22nd at the request of the Society.

It entertained at a reception, dance and bridge at the Druid Hills Golf Club, January 31st in honor of the new officers and the members of the Medical Society, Dr. Edgar De Witt Shanks, President, and the 1934 officers. Dr. Marion C. Pruitt, President.

Jackson County

Members in Jackson County are busy in other organizations. Mrs. S. A. Boland is President of the Jefferson Woman's Club. Mrs. M. B. Allen and Mrs. Ralph Freeman, of Hoschton, are active in the health work

of their Woman's Club. The State Auxiliary can always rely on this county extending its program and distributing its material.

Notes

The Hartwell Woman's Club, with Mrs. J. L. Jenkins, Mothercraft and Child Welfare Chairman, has planned a health program for March. The program of the Club states, "March, we seek health not for health's sake alone, but for the sake of being useful in the world." A physician and an Auxiliary member will address it.

We have read a poem, "The Doctor's Wife," by Mrs. G. T. Bernard, of Augusta, and wish we had space to publish it. A member in Washington County sent it. Perhaps Mrs. Bernard will permit it to be read at some meetings.

The Atlanta Council enjoyed the skit on "A Parliamentary Procedure," written by our Mrs. Wm. M. Myers, of Savannah, and produced by P.-T. A. members.

COUNTIES REPORTING FOR 1935

Franklin County Medical Society

The Franklin County Medical Society announces the following officers for 1935:

President—Stewart D. Brown, Royston.

Secretary-Treasurer—B. T. Smith, Carnesville.

Richmond County Medical Society

The Richmond County Medical Society announces the following officers for 1935:

President—G. Lombard Kelly, Augusta.

Vice-President—J. H. Sherman, Augusta.

Secretary-Treasurer—R. C. McGahee, Augusta.

Delegate—A. A. Davidson, Augusta.

Delegate—Geo. A. Traylor, Augusta.

Alternate Delegate—W. W. Battey, Augusta.

Alternate Delegate—W. J. Cranston, Augusta.

Ocmulgee Society

(Bleckley, Dodge, Pulaski Counties)

The Ocmulgee Medical Society announces the following officers for 1935:

President—W. F. Massey, Chester.

Vice-President—J. F. Powell, Gresston.

Secretary-Treasurer—I. J. Parkerson, Eastman.

Delegate—W. A. Coleman, Eastman.

Alternate Delegate—J. M. Smith, Cochran.

Meriwether County Medical Society

The Meriwether County Medical Society announces the following officers for 1935:

President—W. P. Kirkland, Manchester.

Vice-President—T. W. Jackson, Manchester.

Secretary-Treasurer—R. B. Gilbert, Greenville.

Delegate—J. A. Johnson, Manchester.

Alternate Delegate—T. W. Jackson, Manchester.

Bartow County Medical Society

The Bartow County Medical Society announces the following officers for 1935:

President—R. E. Adair, Cartersville.
 Vice-President—H. B. Bradford, Pine Log.
 Secretary-Treasurer—W. E. Wofford, Cartersville.
 Delegate—H. B. Bradford, Pine Log.
 Alternate Delegate—T. Lowry, Cartersville.
 Censors—A. L. Horton, W. E. Wofford and J. F. Covington.

Dougherty County Medical Society

The Dougherty County Medical Society announces the following officers for 1935:

President—H. M. McKemie, Albany.
 Vice-President—F. K. Neill, Albany.
 Secretary-Treasurer—Alex R. Freeman, Albany.
 Delegate—F. K. Neill, Albany.
 Alternate Delegate—Alex R. Freeman, Albany.

Taylor County Medical Society

The Taylor County Medical Society announces the following officers for 1935:

President—S. H. Bryan, Reynolds.
 Vice-President—Lewis Beason, Butler.
 Secretary-Treasurer—R. C. Montgomery, Butler.
 Delegate—R. C. Montgomery, Butler.

Coffee County Medical Society

The Coffee County Medical Society announces the following officers for 1935:

President—J. G. Crovatt, Douglas.
 Secretary-Treasurer—T. H. Johnston, Douglas.
 Delegate—T. H. Clark, Douglas.
 Alternate Delegate—J. W. Wallace, Douglas.
 Censors—A. S. M. Coleman and D. H. Meeks.

Jefferson County Medical Society

The Jefferson County Medical Society announces the following officers for 1935:

President—J. J. Pilcher, Wrens.
 Vice-President—S. C. Ketchin, Louisville.
 Secretary-Treasurer—S. T. R. Revell, Louisville.
 Delegate—S. T. R. Revell, Louisville.

BOOKS RECEIVED

How to Practice Medicine. By Henry W. Kemp, M.D., New York City. Contains 156 pages. Publisher: Paul B. Hoeber, Inc., New York City. Price \$2.50.

Observations of A General Practitioner. By William N. McCartney, M.D. Contains 478 pages. Publisher: Richard G. Badger, Boston, Mass.

Hospital Practice for Interns. By the Council on Medical Education and the Council on Pharmacy and

Chemistry of the American Medical Association, 535 North Dearborn Street, Chicago. Contains 112 pages.

Epitome of the Pharmacopeia of the United States and the National Formulary, With Comments. Prepared for the use of physicians under authorization of the Council on Pharmacy and Chemistry of the American Medical Association by a committee consisting of the following: R. A. Hatcher, M.D., Professor of Pharmacology, Cornell University Medical College; Ernest E. Irons, Ph.D., M.D., Clinical Professor of Medicine, Rush Medical College; Torald Sollmann, M.D., Professor of Pharmacology and Materia Medica, School of Medicine, Western Reserve University; W. A. Puckner, Phar. D., Secretary of the Council on Pharmacy and Chemistry. Contains 238 pages. Publishers: American Medical Association, 535 North Dearborn Street, Chicago.

Useful Drugs—A List of Drugs Selected to Supply the Demand for a Less Extensive Materia Medica With A Brief Discussion of Their Actions, Uses and Dosage. Prepared under the direction and supervision of the Council on Pharmacy and Chemistry of the A. M. A. Edited by Robert A. Hatcher, Ph.M., Sc.D., M.D., and Cary Eggleston, M.D. Ninth Edition. Contains 203 pages. Publishers: American Medical Association, 535 North Dearborn Street, Chicago, Ill.

Stammering and Allied Disorders. By C. S. Blue-mel, M.D. "The book presents clearly a theory of stammering which may give a broader conception of the subject. The author not only explains his own theory in an interesting and constructive manner, but contrasts and harmonizes it with most widely used theories and practices in the science today. The last chapter is devoted to helpful suggestions for the treatment of stammering." (Description written by publishers). Contains 182 pages. Publishers: The Macmillan Company, 60 Fifth Avenue, New York City. Price \$2.00.

Standard Classified Nomenclature of Disease. Compiled by The National Conference on Nomenclature of Disease. Edited by H. B. Logie, M.D., C.M., Executive Secretary. The following national organizations have approved either the whole Standard Classification Nomenclature of Disease, or the section with which each is particularly concerned: American Medical Association, American College of Surgeons, American Hospital Association and 24 other organizations. Contains 870 pages. Printed by E. L. Hildreth & Company, Brattleboro, Vt. The Commonwealth Fund, 41 East 57th Street, New York City.

NEWS ITEMS

The Spalding County Medical Society met at the R. F. Strickland and Son Memorial Hospital, Griffin, on January 15th. Dr. J. Calvin Sandison, Atlanta, spoke on the *Treatment of Fractures of the Neck of the Femur*; Dr. Allen H. Bunce, Atlanta, Secretary-

Treasurer of the State Association, talked on *Recent Developments in Legislative Trends*. Dinner was served.

The Fulton County Medical Society met at the Academy of Medicine, Atlanta, January 17th. Dr. Dan C. Elkin presented a patient with *Stab Wounds of the Heart with Recovery*; Dr. Jos. Yampolsky and Dr. Clarence D. Fowler gave a case report, *Miliary Syphilis in the Newborn*; Capt. Fred Rudder made a clinical talk with motion picture demonstration of *Blood Transfusion*; Dr. Garnett W. Quillian read a paper entitled *Ectopic Pregnancy with Report of Recent Cases*. The discussion was led by Dr. T. B. Armstrong, Dr. W. F. Shallenberger and Dr. Simon H. Smith.

The staff meeting of the Wesley Memorial Hospital, Emory University, was held on January 11th. Drs. Earl Floyd and J. L. Pittman, Drs. Dan C. Elkin and J. D. Martin, and Joseph C. Read reported cases. The discussion was opened by Dr. Geo. Bachmann, Dr. Jas. K. Fancher, and Dr. Ben H. Clifton.

The Clinical Society of the Piedmont Hospital, Atlanta, met at the Hospital on January 14th. Dr. H. C. Sauls reported cases of *Empyema of Gallbladder* and *Metastatic Abscess of Liver*; Dr. Jas. E. Paullin, case of *Aleukemic Lymphocytic Leukemia*.

Dr. Newdigate M. Owensby, Atlanta, Secretary of the Southern Neuropsychiatric Association, reports an excellent scientific and social program at the annual meeting of the Association held at Memphis, Tenn., February 5-6.

Dr. Frank K. Boland, Jr., Atlanta, recently spent several weeks at the Mayo Clinic, Rochester, Minnesota, doing postgraduate work in surgery.

The Georgia Medical Society, Savannah, held its regular meeting on January 22nd. Dr. J. C. Metts read a paper entitled *Infantile Paralysis*; Dr. A. J. Waring and Dr. H. J. Morrison led the discussion. Dr. T. P. Waring reported a case, *Plastic Operation for Pendulous Breast*. Dr. M. J. Epting reported a case, *Plastic Correction of Flexion Deformity for Old Burn Contraction—Tube Graft*.

Dr. E. J. Smith and Dr. J. R. Smith, Habira, entertained the members of the Lowndes County Medical Society to dinner at the Gold Leaf Hotel on January 4th.

Dr. Hugh M. Lokey, Atlanta, was elected President of the Piedmont Hospital Staff; Dr. Jno. B. Duncan, Atlanta, Vice-President; Dr. Guy C. Hewell, Atlanta, Secretary.

Dr. M. E. Winchester has been elected Commissioner of Health for Glynn County for a term of four years.

He resigned the position of Director of County Health Work with the State Board of Health. Dr. Winchester will have offices at Brunswick.

The Meriwether County Medical Society met at Hotel Manchester, Manchester, Georgia, on January 10th. Officers were elected for 1935.

Dr. G. Lombard Kelly, Augusta, Dean of the University of Georgia Medical Department, Augusta, received notice of a gift to the medical school of \$18,000.00 from Mrs. John W. Herbert of New York City and Augusta.

Dr. Roy R. Kracke, Pathologist of Emory University School of Medicine, Emory University, has been awarded the Ward-Burdick Medal for research work begun five years ago on the cause of *Agranulocytosis*.

The staff meeting of St. Joseph's Infirmary, Atlanta, was held on January 22nd.

Dr. and Mrs. H. E. Crow, Alto, entertained the members of the Habersham County Medical Society and Auxiliary in their home on January 10th.

Dr. Herschel C. Crawford has been elected President of the staff of the Georgia Baptist Hospital, Atlanta; Dr. C. C. Aven, First Vice-President; Dr. W. S. Dorrough, Second Vice-President; Dr. Olin S. Cofer, Secretary.

"The officers of the Fulton County Medical Society have the honor and pleasure of announcing the establishment of the E. Bates Block Memorial Lectureship in Medicine—created in memory of Dr. E. Bates Block by his family. It is the purpose of this lectureship to bring to Atlanta each year some outstanding man in medicine." Dr. Foster P. Kennedy, New York City, was the first speaker to appear on the lectureship program at the Academy of Medicine, Atlanta, on January 24th. Subject of his address was *The Relation of Neurology and Psychiatry to General Medicine*. Dr. R. B. Wilson introduced Dr. Kennedy. In addition to the E. Bates Block Memorial Lectureship in Medicine, the Fulton County Medical Society has the Floyd McRae Memorial Lectureship in Surgery and the Lilly Heard Anderson Memorial Lectureship in Pediatrics.

The State Medical Society of Wisconsin has published a booklet entitled *Sickness Insurance and the Propagandist Foundations*—Milbank Memorial Fund (40 Wall Street, New York City), Julius Rosenwald Foundation (Chicago), Twentieth Century Fund (11 West 42nd Street, New York City). On the front cover, Dr. C. A. Harper, State Health Officer for 1934, is quoted as follows: "No one knows better the underlying essentials to efficient medical practice than members of the medical profession in promoting the best interest of all parties concerned. The medical pro-

fession of Wisconsin should be united in support of these principles."

Dr. William G. Hamm, formerly associated with Dr. V. P. Blair of St. Louis, announces the opening of offices at 801 Medical Arts Building, 384 Peachtree Street, N.E., Atlanta, for the practice of oral and plastic surgery.

Dr. Wm. Perrin Nicolson, Jr., was elected President of the staff of St. Joseph's Infirmary, Atlanta; Dr. Murdock Euen, Vice-President; and Dr. Clarence L. Laws, Secretary.

Dr. Walter L. Bierring, Des Moines, Iowa, President of the American Medical Association, spoke before a called meeting of the Fulton County Medical Society, Atlanta, February 4th on *Keep the Practice of Medicine in the Hands of Doctors and Out of Politics*.

The Medical Society of the State of New York mailed to all daily papers in New York State a statement in reference to a bill pending in the state legislature in part as follows: "Stigmatizing the health insurance bill pending before the state legislature as a measure under which patients would get poor medical care, and physicians would degenerate into callous machines, Dr. Jacob L. Moreno of New York City, appeared to enter his protest against the law. He told members of the legislative committee, Medical Society of the State of New York, his experience during six years under health insurance in Austria. "All such schemes operate to make physicians into mass-production machines turning out a standard treatment to patients. Every patient is an individual medical problem. Health insurance cheats both the patient and the doctor. In the name of trying to advance human welfare, such measures actually retard progress."

The Fulton County Medical Society met at the Academy of Medicine, Atlanta, February 7th. Case reports: *Operation for Elongated Nose*, Dr. Geo. A. Williams; *Sinus Allergy*, Dr. R. R. Daly. Clinical talk: *Diagnosis and Treatment of Various Forms of Prostatitis*, Dr. Earl Floyd and Dr. J. L. Pittman. Paper: *The Pathology of Agranulocytosis—A Survey of 73 Cases*, Dr. Jack C. Norris. Discussions were led by Dr. Stewart R. Roberts, Dr. Wm. L. McDougall, and Dr. Roy R. Kracke.

Dr. Murdock Euen, Atlanta, read a paper before the sectional meeting of the American Laryngological, Otolological and Rhinological Society, Norfolk, Va., on *Esophageal Disturbances*.

The Fourth District Medical Society met at the Griffin Hotel, Griffin, February 6th. Dr. C. E. Irvin read a paper on the *After Care of Poliomyelitis—Illustrated by Moving Pictures and Lantern Slides*; Dr. Geo. Walker, Griffin, *Practical Management of Congestive Heart Failure*; Dr. Jas. E. Paullin, Atlanta, President-Elect of the Association, *Medical Economics*;

Dr. Allen H. Bunce, Atlanta, *Transfusion in the Treatment of Infectious Arthritis*.

The Randolph County Medical Society met at the Patterson Hospital, Cuthbert, on February 7th. Dr. J. C. Patterson read a paper on *Duodenal Stasis*.

Dr. L. C. Fischer, Atlanta, entertained at dinner on February 5th at the Crawford W. Long Memorial Hospital; Governor Talmadge, his secretary, Hon. Geo. B. Hamilton, State Treasurer; a number of members of both houses of the General Assembly of Georgia; members of the Legislative Committee of the Georgia Hospital Association, and some of the committeemen and officers of the Medical Association of Georgia.

Dr. D. T. Rankin, Milledgeville, member of the medical staff of the Milledgeville State Hospital, has been appointed Acting Superintendent of the State Tuberculosis Sanatorium at Alto.

Dr. H. B. Kennedy, Atlanta, has been appointed Associate Medical Director of the Woodmen of the World and moved to Omaha, Nebraska.

The Burke-Jenkins-Screven Counties Medical Societies held a joint meeting at Millen on February 7th. Dr. C. Thompson, Millen, reported a case of *Cancer of the Right Colon and Discussed the Pathologic Physiology and Symptoms*; Dr. W. R. Lowe, Milledgeville, reported a case of *Intestinal Obstruction*; Dr. H. G. Lee, Millen, and Dr. W. W. Hillis, Sardis, cases of *Strangulated Hernia*; Dr. H. F. Bent, Milledgeville, *Uterine Hemorrhage at the Menopause*.

Dr. Wm. A. Smith, Atlanta, was elected to active membership in the American Neurological Association at its last annual meeting held in Atlantic City. There are only 155 active members of the Association in the United States. Dr. Smith is the third Georgian to be so honored. Dr. E. Bates Block and Dr. Chas. E. Dowman, both deceased, were previously honored by election to membership.

OBITUARY

Dr. William David Sloan, Stockton: University of Georgia Medical Department, Augusta, 1910; aged 56; died in a private hospital in Atlanta on January 10, 1935. He was born and reared in the Stockton community. Dr. Sloan had an excellent reputation as a practicing physician and did an extensive practice in Lanier and adjoining counties. He was a member of the Baptist church. Surviving him are his widow and four sisters. Funeral services were conducted from the Baptist church by Rev. Wm. Bell. Burial was in Cow Creek cemetery.

Dr. Ezekial Z. Hurst, Alma: University of Georgia Medical Department, Augusta, 1917; aged 42; died

at his home on January 10, 1935. He had practiced medicine in Bacon county for fourteen years, held in high esteem as a citizen and physician. Surviving him are his widow, five daughters, Mrs. J. B. Mercer, Mrs. Lloyd Crowe, and Misses Lorraine, Marjorie and Billie Jack Hurst; one son, E. Z. Hurst, Jr. Rev. W. W. Whaley conducted the funeral services from the Methodist church. Burial was in Rose Hill Cemetery.

Dr. Sidney Walker, Dublin: Member; Hospital College of Medicine, Louisville, Ky., 1904; aged 55; died in a private hospital in Atlanta on January 21, 1935. He was a native of Franklin, Ky. Served in the Medical Corps of the U. S. Army in France during the World War. With the exception of his service in France, he had practiced medicine in Laurens and adjoining counties for thirty years. In addition to his success as a general practitioner, he was especially skilled in the treatment of fractures and bone injuries. Dr. Walker was held in high esteem by hundreds of friends. Surviving him are his mother, Mrs. A. S. Walker, Franklin, Ky.; two brothers, Jas. L. Walker, Cincinnati, Ohio, and D. A. Walker, Macon; and one sister, formerly Miss Evelyn Walker. Burial was in the city cemetery at Franklin, Ky.

Dr. Marion O. Fulcher, Waynesboro: Member; University of Georgia Medical Department, Augusta, 1892; aged 65; died at the home of his sister, Mrs. Carrie Green, Waynesboro, on January 16, 1935. He was born and reared in Burke county and resided there all his life except during the Spanish-American War while he served as surgeon in the medical corps in Cuba. Dr. Fulcher was a successful practitioner and had many friends. He was a member of the Burke County Medical Society, F. & A. M., and the Methodist church. Rev. J. E. Parker conducted the funeral services from the Methodist church. Interment was in Magnolia cemetery.

Dr. Cicero Holcomb Cox, Waynesboro: University of Georgia Medical Department, Augusta, 1886; aged 68; died at his home on January 17, 1935. After receiving his degree in medicine, he took post-graduate work in New York. Dr. Cox practiced for more than forty years. Surviving him are his widow and one sister, Mrs. Emmett Lanier, Harlem. Rev. J. E. Parker conducted the funeral services from the residence. Burial was in the churchyard at Mt. Zion Church.

Dr. Lee W. Wheeler, Kite: University of Georgia Medical Department, Augusta, 1900; aged 64; died at a private hospital in Dublin on January 14, 1935. He was born and reared in Johnson county and was a member of one of its most prominent families. Dr. Wheeler practiced medicine for about forty years. Surviving him are one son and three daughters. He was buried with Masonic honors at the Wheeler cemetery near Kite.

Dr. John R. Perry, Atlanta: Georgia College of Eclectic Medicine and Surgery, Atlanta, 1892; aged

80; died at a private hospital on January 24, 1935. He was educated in the public schools at Gainesville. After receiving his degree in medicine, he practiced for a number of years at Gainesville before he moved to Atlanta. Dr. Perry retired on account of ill health more than a year ago. Surviving him are three sons, Reese Perry, Atlanta; Boyd Perry, New York; Marvin Perry, Hamlet, N. C.; two grandsons and three granddaughters. Funeral services were conducted by Rev. Fred L. Glisson from Spring Hill chapel. Burial was in West View cemetery.

DOCTOR SIDNEY WALKER

Dr. Sidney Walker, of Dublin, died at the Piedmont Hospital, Atlanta, January 22, 1935. He was born in Franklin, Ky., December 18, 1879. Dr. Walker graduated from the Medical Department of the University of Kentucky and held an A.B. degree from his state college. In 1904 he served as an interne of Bellevue Hospital, New York, after which he located at Lake Providence, La., and practiced there for two years before moving to Dublin in 1907, where he practiced with Dr. Charles Hicks for a number of years. He served with the medical corps of the U. S. Army with the rank of major during the World War and was assigned to duty with the British Government at Leeds, England. Dr. Walker was at one time city and county physician and at the time of his death was an active member of state and county medical societies, A. M. A., Southern American Legion, V. F. W., member of the County Board of Health and a member of the First Methodist church. Dr. Walker is survived by his mother, Mrs. A. S. Walker, of Franklin, Ky., one sister, Mrs. E. L. Reep, who was formerly Miss Evelyn Walker, and two brothers, James L. Walker of Cincinnati, Ohio, and D. A. Walker, of Macon, Ga. Two aunts, Mrs. J. M. Finn and Mrs. C. B. Epes, of Dublin, are also left to mourn his passing. Final rites were held for Dr. Walker at his former home in Franklin, Ky.

O. H. CHEEK, M.D.

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In addition to its importance as a vitamin D supplement to the diet, Cocomalt is helpful where milk intake is a problem. For Cocomalt, which is designed to be mixed with milk, is truly delicious. But a word of warning must be sounded concerning products that appear to be similar to Cocomalt. For the most part

these preparations are mere flavorings—a mixture of chocolate and sugar. Cocomalt, however, is a product designed as a food with vitamin content. Its tempting chocolate flavor—important as it may be in making milk more palatable—is secondary to its importance as a bodybuilding food with vitamins.

An interesting booklet about the origin and function of all the accepted vitamins has been prepared by R. B. Davis Company, the makers of Cocomalt. It may be secured on request without cost by writing the company at Hoboken, New Jersey, Dept. 000.

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The present spectacle of vitamin advertising running riot in newspapers and magazines and via radio emphasizes the importance of the physician as a controlling agent in the use of vitamin products.

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THE EFFECT OF VITAMIN A ON THE COMMON COLD

The article appeared in the December 29 issue. It was entitled "The Effect of Vitamin A on the Common Cold" and the authors were Shibley and Spies of Cleveland. Near the end these authors, who did their work with fish liver oils, recognized the possible differences between the Vitamin A of fish liver oils and the activity of the Pro-Vitamin A (Carotene) in these words:

"The evidence, however, is at least suggestive that Vitamin A has a slight shortening effect on colds occur-

ring in the winter. Whether this difference in winter as compared with spring, summer and fall bears any relation to the reduction of leafy vegetables in the diet in the winter months *with consequent decrease of pro-vitamin* and whether, if confirmed, it represents a seasonal deficiency analogous to that associated with avitaminosis in general is a matter for speculation."

The present nomenclature is unfortunate and it is easy to confuse Vitamin A (fish liver oils) with Pro-Vitamin A (Carotene). We are sufficiently familiar with the literature to know that it is highly desirable to specify whether the source of vitamin A activity in a given instance was fish liver oil or carotene (of vegetable origin). This is desirable in the interests of accuracy, irrespective of whether the conclusions were favorable or unfavorable. Our familiarity with the literature comes about because one of our clients offers both cod liver oil and carotene.

Please understand that we are not asking you to print anything at all. We merely suggest that, if you do see fit to publish anything regarding Vitamin A activity, you see that your writers specify whether the source was carotene or fish liver oils.

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Kindness of Bobby

Dear Dr. Armstrong:

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But more than that, he had heard his Dad and me talking, and he knew that this was different from the ordinary check we send out—that it deserved something more than the slapping on of a stamp

and routine delivery by the mail man.

And Bobby is right.

You couldn't have done more if he had been your own child. We've always known this, and yet your bill has lain here, put off month after month, while bills for other things have been paid.

It wasn't that we didn't want to pay you, for we did. But after we bought those things necessary to keep us going—food, and cloth-

ing, and coal—our bank balance was pitiful to behold.

Now, thank heavens, things are a little brighter. And here at last is our chance to send you something more than thanks for all you did for Bobby and for us.

Sincerely,

Mrs. J. _____ B. _____

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THE JOURNAL OF THE MEDICAL ASSOCIATION OF GEORGIA

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ANGINA PECTORIS ASSOCIATED WITH MYOCARDIAL DISEASE

JEFF L. RICHARDSON, M.D.
Atlanta

Since the term angina pectoris has sometimes been used as more or less of a blanket term to cover various types of heart pain it seems wise to define the term as it will be dealt with in this discussion. By angina pectoris is meant an attack of excruciating pain about the heart that usually radiates to one or both arms. The attacks are precipitated by overexertion, overeating, worry, excitement, or anything that throws an increased load upon the heart. They may be a few minutes to several hours in duration. They are usually but not always relieved by nitrates. Any attack may prove fatal.

Angina has been described as occurring with three distinct types of cardiac conditions, namely; coronary disease, aortitis, and apparently normal hearts. It is the purpose of this discussion to present a type of angina that occurs with a fourth type of cardiac condition, namely, myocardial disease. By myocardial disease is meant a pathologic condition that involves primarily the heart muscle and results in enlargement of one or more chambers of the heart. I exclude from this discussion syphilitic myocardial disease.

Angina associated with myocardial disease is usually seen in the fifth and sixth decades of life. The few cases that I have seen have all occurred in men. In each case a definite history of angina of increasing severity was obtained. Physical examination reveals varying amounts of arteriosclerosis and a blood pressure that is not elevated. The pulse rate is slightly accelerated, 90-100. Careful examination of the heart will reveal a slight enlargement. This may be either to the right

or to the left. The heart sounds may be normal or may be of poor quality. Evidence of aortitis and electrocardiographic evidence of coronary disease are lacking. Electrocardiographic evidence of myocardial disease is usually present. The diagnosis then rests upon a history of angina, the presence of an enlarged heart, and the elimination of coronary disease and aortitis. It is most important that coronary disease be eliminated.

The attacks usually are frequent, occurring in one of my cases daily. They are typical of angina and in addition to the pain there is acceleration of the respiration and a feeling of impending disaster. During the attack the blood pressure may be slightly elevated but the attack produces no noteworthy changes in the size of the heart, the sounds, or the rate.

Treatment. Digitalis acts as a specific in this condition and in no other cardiac condition is the response to this drug any more dramatic. Digitalization produces an immediate and permanent relief from the attacks. It has been my practice to use the tincture and this is given in doses of 4 cc. every four hours for four doses. Two cubic centimeters are then given every four hours until a digitalis effect is noted. A maintenance dose (1 cc. usually) is then administered daily for a period of from one to four months depending upon the severity of the condition. In addition to the digitalis other measures should not be neglected. These include removal of foci of infection and a dietary regimen that does not allow the stomach to be overloaded. The patient should be kept at rest in bed for the first ten days of treatment.

As stated above, it is most important that coronary disease be ruled out in the diagnosis of this condition. The reason for this is that digitalis has been proven to be of no value in coronary disease unless it is accompanied by frank cardiac failure. In some cases it may

be actually harmful. In my experience with coronary disease it has brought on pain in some cases and in other cases that already had pain it was made more intense by the administration of digitalis. It is important therefore that electrocardiographic studies be made and coronary disease be ruled out before digitalis is administered to any patient with pain about the heart.

Two cases that are typical of angina associated with myocardial disease will now be presented.

CASE 1.—The patient, a man of 57 years, was seen in April, 1926. His chief complaint was that for a period of eight months he had suffered with attacks of pain about his heart. The attacks were characterized by excruciating pain about the heart that radiated to the right shoulder and down the right arm. During the attack he had some shortness of breath but this gave him no concern; he complained bitterly of the pain however. The attacks rarely occurred in the daytime but usually came on at night, were from one to three hours in duration and apparently had not been shortened by any medication he had received from his family physician. The attacks had increased in frequency and severity and at that time were occurring every night. He had noticed some shortness of breath on exertion for a period of about four months before the onset of the pain.

The past history was negative for anything that might have a bearing upon the cardiac condition.

Examination revealed a well developed and fairly well nourished man of 57 years. The radial pulse was regular and of good volume. There was a moderate amount of sclerosis of the peripheral vessels. The blood pressure was systolic 155, diastolic 90. The heart was enlarged slightly to the right, the right border of cardiac dullness being 1 cm. to the right of the sternum in the fourth intercostal space. The left border of cardiac dullness did not extend beyond the mid-clavicular line. The sounds were of good quality and no murmurs were heard. Physical examination otherwise revealed nothing of importance. The blood and urine were normal.

The patient was ordered to bed and during the first few days had an attack of angina every night. These usually came on about 8 p.m. No relief was obtained with amyl nitrite, nitroglycerine or morphine. The attacks seemed to be shortened by the administration of morphine sulphate gr. 1/2 in combination with atropine sulphate gr. 1/150 but the immediate relief of pain hoped for was not obtained with this dosage.

He was given 4 cc. of tincture of digitalis every four hours but vomited after the fourth dose. It was then administered per rectum and after a total of 48 cc. had been administered a digitalis effect was obtained. The pulse rate had now slowed from 90 to 70 and the pulse was the slow, strong, bounding type characteristic of a digitalis effect. At this time the

nausea spontaneously cleared up and the patient volunteered the information that he felt a sense of security in his chest that he had not had in months. He also stated that he thought he would get through the night without his usual attack. He had no attack that night and has had none since. He was put on a maintenance dose of 1 cc. of tincture of digitalis daily and this was continued for a period of four months.

In response to a questionnaire sent him recently he stated that he had suffered some slight pain following exertion and after heavy meals but has had no anginal attacks. By not overexerting and by prudent eating he leads a very comfortable existence and is free from pain. He has received no digitalis in the past seven years.

It is interesting to note in this case that the pain always radiated to the right arm and that the nausea, which was thought by an associate to be due to digitalis, cleared up immediately when a digitalis effect was obtained.

CASE 2.—The patient, a man of 45 years, was seen in September, 1933. His complaint was pain around his heart. His illness started six months before when he noticed pain in his left elbow and shortness of breath following exertion. In the course of a few weeks he began to have a sense of tightness in his chest accompanying the pain in his elbow. This was followed shortly by definite attacks of pain about his heart. During the month prior to the time he was seen he had five attacks of angina. These were precipitated by overexertion and excitement.

The past history was unimportant.

When first seen, the patient, a short, slightly obese individual, was having a typical attack of angina. He was complaining of pain around his heart which was most intense and stated that it radiated down his left arm to his finger tips. The heart on examination was found to be slightly enlarged to the left, the left border of cardiac dullness being 1.5 to the left of the mid-clavicular line in the fifth intercostal space. The sounds were normal. The rate was 90. There was a well marked sclerosis of the peripheral vessels and the blood pressure was systolic 150, diastolic 90. Examination otherwise revealed nothing of importance. The patient was given amyl nitrite and obtained immediate relief from his pain.

An electrocardiogram taken the following day showed a marked left axis deviation which in this case was interpreted as meaning left ventricular hypertrophy. The T waves were normal.

The patient was ordered to bed and tincture of digitalis administered. After a digitalis effect had been obtained he was kept on a maintenance dose of 1 cc. daily for a period of three months. He had no further attacks after being put to bed. After three weeks he was allowed to be up and at the end of the fourth week he resumed his normal activity. He was cautioned, however, against overeating and against overexertion. Two suspicious teeth were removed while he was confined to bed. He states at this time that he feels fine.

Summary

A condition of angina pectoris associated with myocardial disease has been described.

Digitalis acts as a specific in this condition and produces permanent relief from the attacks.

Two typical cases have been presented.

CHRONIC CORONARY ARTERY DISEASE* (MYOCARDOSIS)

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Macon

Even though a rose by any other name would smell as sweet, the converse does not hold to the extent that we are justified in applying to other sweet smelling flowers the name rose. This is essentially the situation with regard to the much abused term "chronic myocarditis."

The term myocarditis signifies inflammatory changes in the heart muscle. This is a well known entity both pathologically and clinically. It occurs usually in an acute or subacute form accompanying particularly rheumatic and streptococcic infections and also diphtheria, typhoid fever, and influenza. Chronic inflammatory changes in the heart muscle do occur but may be said to be of such comparative rarity as to be relatively unimportant.

The term chronic myocarditis worried me no little in medical school because I was taught that conditions so termed were not characterized pathologically by inflammatory changes. I was particularly impressed during my interne days with the abundance of ignorance for which the term chronic myocarditis was used as a cover. It was almost a tradition that in the death of any patient past forty for which no adequate cause of death was known, the certificate could be signed "chronic myocarditis" without fear of questions, investigation, or contradiction.

It has therefore been very gratifying to me to see the more recent tendency towards the clarification of terminology in chronic heart disease.

True myocarditis, as we have seen above, is a disease chiefly of the first few decades of life. Cardiac disease characteristic of the middle and later decades represents a very different process. It is degenerative rather than inflammatory and it is being repeatedly demonstrated as due to an actual or relative obstruction of the flow of blood to the myocardium through the coronary system. Changes in the myocardium result from the decreased nutrition and anoxemia.

In discussing the terminology of this group of conditions Sutton and Lueth in their recent book on the subject retain the term chronic myocarditis because of its antiquity and universal usage, but they consider it as definitely synonymous with coronary arteriosclerosis. Christian proposed the term chronic non-valvular heart disease with the admission that it was unsatisfactory. In 1926 Reisman applied the term Myocardosis to this form of heart disease. This designation has much in its favor and has recently met with increasing acceptance.

Obstruction to the coronary flow resulting in myocardosis may be anatomical from the decrease of the arterial lumen by arteriosclerotic changes, by endarteritis, or by thrombosis. Relative coronary obstruction, sometimes termed relative stenocardia, occurs when perivascular fibrosis prevents physiologic dilatation of the coronary arteries, or when there is some interference with the nerve mechanism of vaso-dilatation. Lastly, the same end result of deficient muscle nutrition and anoxemia are reached from certain conditions of functional sternocardia in which insufficient blood is delivered from the left ventricle to provide adequate coronary circulation. This occurs typically in extreme mitral stenosis and probably in the condition known as "effort syndrome." In spite of the above enumeration of numerous conditions interfering with normal coronary function and heart action, the one which is active in the great majority of cases and the one in which we are primarily interested in this paper is coronary sclerosis.

Etiology—While coronary sclerosis has been demonstrated at all ages, the vast majority of instances occurs in middle adult life and old age. At these periods the great

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preponderance of occurrence is in males. The influence of heredity is probably indirect. Infections, toxic and endocrine factors play their part in the coronary vessels as in generalized arteriosclerosis, but of primary importance in sclerosis of the heart arteries are those vague factors of nerve strain and high tension living. It is being repeatedly pointed out that this is an increasing factor in the death rate of executives and especially physicians and other professional men who lead a sedentary life working long hours under high pressure. The danger is still greater if the individual is over weight, emotionally tense, irritable, and high strung.

Symptomatology—Extensive sclerosis of the coronary arteries may be present without symptoms or physical findings only to be demonstrated at autopsy or disclosed by a sudden attack of angina pectoris or acute coronary occlusion. It is much more common, however, for such changes to manifest themselves in some way which will identify the existing condition if the case is carefully studied.

Probably in the recognition of no other condition do the subjective symptoms play a more important part. A group of vague symptoms without apparent direct cardiac relation may serve to masquerade or may point the way to the existing condition depending upon how they are interpreted. The individual may simply have a general feeling of inadequacy as though he were growing old too fast. As Hyman and Parsonett phrase it, he feels that he "is not as good as he used to be." Increasing fatigability without other demonstrable cause may be the outstanding symptom. This may be produced by physical or mental effort and characteristically there is associated with it the sense of inability to perform customary tasks. This has been termed "ergophobia" and is sometimes so marked as to be considered the minor counterpart of the fear of death accompanying severe angina pectoris.

Other vague and intangible symptoms in these cases may be gastric, vaso motor, or nervous. Anorexia and symptoms of gaseous indigestion with negative gastrointestinal findings are common. Vertigo, dizziness, and even syncope or convulsions may

result from inadequate cerebral circulation secondary to the myocardosis. Insomnia, particularly if influenced by postural changes such as increasing the elevation of the head, is particularly suggestive. Even more intangible are such psychic phenomena as mental haziness, impaired memory, hallucinations, and vague changes in character and personality make up.

In contrast to all the above symptoms which do not clearly and obviously point to the heart as the location of the underlying pathological cause are those symptoms which form the great triad of myocardosis and which have been called "the three steps to heart failure." These are dyspnoea, palpitation, and substernal discomfort.

Shortness of breath is one of the most important features of myocardosis. As the cardiac reserve diminishes from coronary inadequacy, the amount of exertion necessary to produce breathlessness is decreased. Early it may be difficult, though important, to distinguish pathologic dyspnoea from a normal response to exertion. As this symptom increases in severity it may dominate the symptomatology. Cheyne-Stokes respiration or attacks of so-called cardiac asthma may be recognized.

Palpitation is the second member of the triad. Occurring early in myocardosis it may be either overlooked or minimized. In contrast to palpitation in youth, that appearing in middle age is usually of importance. The palpitation of myocardosis must be distinguished from that of emotional origin and from misinterpretation of gastrointestinal symptoms. It is usually of sudden onset after effort or eating. Particularly if accompanied by other evidences of myocardial damage it is of grave significance.

Substernal discomfort may vary in degree from an unpleasant sensation of tightness or heaviness to the most severe vice-like constriction pains of angina pectoris. It is more alarming to the patient than either of the other two symptoms of the triad. It is almost invariably associated with effort and causes a definite apprehension on the part of the patient. This causes him to seek medical advice and usually to give it a great deal

more weight than he would if this particular manifestation were lacking.

Objective Findings—In early myocardosis the subjective symptomatology described above greatly outweighs the objective. In the incipient stages physical signs are normal. In the advanced stages the findings are those of extreme cardiac failure. An enlargement of the heart without demonstrable valvular lesion is important. Increase in blood pressure is either present in these cases or has previously existed, with very few exceptions. Simple functional tests for cardiac reserve have not proved entirely satisfactory. Blood pressure and pulse rate changes after exercise may be of significance but are not entirely dependable. Probably the best test of cardiac reserve is the cardiac respiratory test devised by Frost. It involves a determination of systolic blood pressure response to changing conditions of intra-thoracic pressure and to prolonged expiratory effort in exhaling through a spirometer.

One objective test now coming into clinical prominence which gives very helpful information as to threatened decompensation is the determination of venous pressure. The apparatus required is not elaborate nor is the execution of the test difficult. When an increase in the venous pressure exceeds the range within which the heart is capable of responding by increased work, cardiac decompensation results.

Nothing is more helpful in the diagnosis of advanced coronary disease than the electrocardiogram.

Therapeutic Management—Particularly in the earlier stages the question of management rather overshadows that of therapy. The patient must be adapted to his cardiac reserve physically, psychically, and socially. Physical adjustment involves especially the questions of proper rest and exercise, and the greatest of these is rest. The proper amount of exercise is beneficial but the chief danger is in too much. In a certain case 9 holes of golf may be helpful if followed by proper rest, while 18 holes would be dangerous. In another case walking the width of a room may be entirely too much exercise.

The psychic adjustment must steer be-

tween the development of a neurosis with the attendant exaggeration of symptoms and fears, and on the other hand an attitude of resenting and minimizing the symptoms with an effort to maintain former levels of activity in spite of them.

My own two favorite words which may be set as a goal for this group of patients as well as many others are moderation and serenity. Moderation and common sense in all things is a high ideal. Serenity is a state of mind almost unknown to the majority of patients who develop this type of trouble. If it does become necessary for these patients to give up their work entirely, it is very helpful if they can develop interests involving activities within the range of their ability. Where a man is permitted to continue to do some or all of his work, it is frequently necessary to curtail numerous social, civic, religious, and other public activities. Although domestic or financial difficulties may be entirely outside the range of the physician's control, he is frequently called upon to help his patient make the best adjustment possible to them.

In regard to the drugs to be employed, if we accept the conception that the myocardosis syndrome is due to stenosing vascular lesions of the coronary arteries, it then follows that the therapy involves chiefly the increase of the flow of blood through these vessels rather than direct stimulation of the heart muscle.

Demonstrated facts on the effects of various drugs upon coronary blood flow are well summed up by Sutton & Lueth as follows: "Drugs increasing the rate of flow through the coronary arteries are:

(1) The nitrite compounds:—(a) Amyl nitrite produced as much as 125 per cent increase. (b) Sodium nitrite produces less increase but lasts longer as does erythrol tetranitrate. (c) Nitroglycerine is more prolonged in action and more effective as a dilator.

(2) The purine bases:—(a) Caffeine produces a moderate increase in rate of flow. (b) Theobromine and its compounds produce moderate to marked increase in coronary flow.

(3) Digitalis may produce slight constriction of the coronary arteries, but the di-

rect effect of digitalis on the heart results in a greatly augmented coronary flow.

(4) Adrenalin produces an increase in rate of flow.

(5) Opium and morphine increase coronary flow slightly.

Quinidin has no effect.

Pituitrin definitely decreases coronary flow.

The nitrites and theobromine, or a derivative, are therefore primarily indicated. Digitalis is useful if decompensation is present or threatened. Lastly, the wise use of sedatives to assist with adequate rest and sleep may be of great importance.

In the advanced stages of myocardosis, coronary occlusion or angina pectoris may add additional factors to be reckoned with but these are not within the scope of this paper.

RESPIRATORY DISTURBANCES DUE TO FOOD ALLERGY

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Vasomotor rhinitis and bronchitis may so closely simulate infections of the respiratory tract as to make the differentiation exceedingly difficult. True infections frequently complicate an underlying allergy serving further to confuse the diagnosis. That allergy may coexist with infection has been demonstrated by Wielle¹ who has shown that only 50 per cent of allergic individuals with sinusitis obtain long continued favorable changes in their asthma following nasal surgery.

The purpose of this discussion is to direct attention to the common occurrence of respiratory disturbances, previously thought to be infectious in nature, but in light of more recent knowledge proven to be allergic in origin. All patients having the complaint of protracted "colds," bronchitis, or chronic catarrh should receive an exhaustive search for underlying allergy as the cause of their disorder. Positive skin tests, while reliable in determining allergy to various inhalants, are oftentimes misleading and not invariably obtained when most expected in cases of food sensitivity. In this regard, Coca² states, "Some asthmatics react negatively to all

known excitants of asthma," and Rowe³ believes that food allergy may exist without positive skin reactions which, if obtained, do not always indicate clinical sensitivity.

The present report is based on a study of ten cases of food allergy presenting respiratory symptoms indistinguishable from those occurring with infections of the nasal and bronchial mucous membranes. In these, inhalant allergy was eliminated by negative skin tests. This history was highly significant, some form of allergy occurring in the family in all and seven had eczema, urticaria, gastro-intestinal symptoms, or other allergic manifestations either at the time of the examination or in the past.

The symptoms differ in no wise from those generally encountered in the common cold or bronchitis. The occurrence of repeated attacks with periods of remission is highly suggestive of sensitiveness to a single food taken intermittently; whereas, the continuation of respiratory symptoms for a prolonged period indicates that exposure to the offending food or foods is more constant. It is not uncommon for patients to become free of their discomfort during the summer, since there is a lessened permeability of mucous membranes in a dry or warm climate⁴.

Neither paroxysms of sneezing, intense itching of the nose, nor attacks of asthmatic breathing are seen with sufficient regularity to obviate the diagnosis. Edema of the turbinates, the whitish glistening appearance of the mucous membranes, and the thin discharge usually described as typical of allergic cases, is frequently clouded by the hyperemia and mucopurulent discharge of an intercurrent infection. For this reason, the occurrence of fever does not invariably point to an infectious process alone.

The finding of an excess of eosinophils in smears taken from secretions has been considered by Kahn and Stout⁵ to be diagnostic of allergy; however, their absence is to be expected in cases of allergic quiescence and in the presence of a secondary infection. Neither does eosinophilia always accompany the syndrome, only three cases being found in this series.

Because of the recognized unreliability of physical findings and laboratory methods in

Case No.	Syndrome	Nasal Mucosa	Positive Skin Tests	Responsible Foods	Per Cent Eosinophilia
1	coryza	hyperemic	none	wheat, eggs	ten
2	bronchitis coryza	hyperemic	chicken feathers	milk, eggs, chicken, wheat	two
3	G. I. upsets coryza	hyperemic	none	wheat, eggs, milk	one
4	bronchitis coryza	edematous	wheat, eggs	potatoes	one
5	asthma	edematous	chicken feathers, orris	wheat, eggs, potatoes, oatmeal, chocolate	twelve
6	eczema, asthma	hyperemic	none	wheat, eggs, milk, potatoes, oatmeal	none
7	coryza	hyperemic	ragweed	eggs	one
8	coryza	hyperemic	none	milk	two
9	coryza	hyperemic	none	milk	one
10	asthma	edematous	none	milk, eggs	eight

Table showing data in ten cases of respiratory food allergy.

establishing the diagnosis of food allergy, the problem presents difficulties. Allergy may be said to exist if the elimination of certain foods produces relief of symptoms and the diagnosis verified if their resumption is followed by a return of the disorder. Rowe⁹ has repeatedly stressed that it is only by diet trial that the diagnosis can be made in many cases.

If symptoms occur intermittently, sensitization to a single food, which is taken infrequently, is suggested. In such a case, a chart showing all foods eaten for a period leading up to an attack will usually disclose the offending substance. The following case is illustrative:

Case 4. A boy, aged 5 years, since the age of eighteen months, had suffered with recurrent attacks of bronchitis during which he coughed incessantly, bringing up large amounts of mucus, and had a high fever. In the intervals he had no complaints. The family history showed that there was asthma on both sides.

The examination during attacks disclosed an edematous state of the turbinates and numerous moist rales in both lungs. Smears taken of the expectoration showed a large number of pus cells but no eosinophils.

It was suggested that a record of all foods taken daily be made until an attack occurred. It was observed that within 24 hours after potatoes were eaten respiratory symptoms appeared. The elimination of this article from the diet resulted in total cessation of the paroxysms.

The occurrence of persistent or continuous respiratory symptoms indicates that the food or foods responsible are eaten more or less regularly, the most common of these being

milk, wheat, and eggs. If their elimination produces no relief of the disturbance, recourse to diet trial as formulated by Rowe⁷ should be undertaken. His diets are based on a study of skin reactions, history and food disagreements, checked by clinical test in 175 known food sensitive individuals. Only foods are included in these lists which have been proven to produce no allergic symptoms.

The following case report demonstrates multiple food sensitivity in a typical asthmatic:

Case 5. A boy, aged 13, had been suffering with asthma since two years of age. At first his symptoms occurred in paroxysms, but during the previous three or four years wheezing was present every night. Severe seizures required morphia and atropine for relief, since the administration of epinephrine lately had become ineffectual. On several occasions after all measures had failed, rectal instillation of ether in olive oil was finally necessary to alleviate his dyspnea. A chronic cough was productive of a large amount of mucopurulent material.

Allergic phenomena could be traced to both sides of the family and the patient had intense urticaria at the onset of his asthma.

The examination revealed marked emaciation. His turbinates were water logged; numerous rales with prolonged expiratory wheezing was heard in the chest. Blood smears showed persistent eosinophilia. All types of allergens gave negative skin reactions except chicken feathers which was intensely positive.

Their elimination from his environment produced no change in the symptoms. He was then placed on a diet eliminating wheat, milk, and eggs. This was followed by immediate improvement, no acute paroxysms recurring and the wheezing at night noticeably diminishing.

Rowe's diet No. 1 was then instituted, resulting in entire cessation during the next two weeks of all allergic symptoms. The addition of milk did not effect this change and finally diet No. II and III was taken without harm. Further diet manipulation revealed that the patient was susceptible to oatmeal, potatoes, eggs, wheat, and chocolate.

Summary

Vasomotor disturbances of the respiratory tract are difficult to differentiate from those of an infectious origin. Any patient with recurrent or protracted "colds" or bronchitis not responding to the usual remedial measures, should be investigated from an allergic standpoint. The absence of edema of the turbinates, eosinophils in nasal smears, thin watery discharges and eosinophilia is not necessarily opposed to the diagnosis of allergy, since the advent of a secondary infection may cloud such a picture.

In cases of inhalant allergy, the reliability of skin tests is well known, but skin reactions in food sensitive individuals can not be relied upon in the determination of clinical sensitivity. For this reason, diet trial following the plan as proposed by Rowe, is advisable particularly in cases presenting negative skin reactions. The response of symptoms to the elimination of the offending substance furnishes the most reliable evidence that food allergy is responsible for the syndrome.

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Nearly one-third of the time, money and effort expended by the Federal Food and Drug Administration is being devoted to protecting the public from the dangers of poisons used in sprays to combat insect pests and diseases that attack fruits and vegetables. This is revealed by W. G. Campbell, Chief of the Administration, in his report to Secretary of Agriculture Wallace, which covers the fiscal year ending June 30, 1934.

PERSONAL EXPERIENCE WITH VERATRUM IN PNEUMONIA

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Wrens

It is not the purpose of this paper to give the symptomatology, pathology, diagnosis, various forms of, nor the general management of any type of pneumonia, but granting the diagnosis, to briefly outline my experience with Norwood's tincture of Veratrum in the treatment of pneumonia, together with a good method of administration.

Some kind of peculiar and almost guilty feeling comes over me when I attempt to discuss this subject, for well do I recall the teaching of my good father who, after forty years' experience as a rural practitioner, was still of the opinion that the drug in question was indicated only in puerperal eclampsia. It may be that he was so well pleased with his treatment already employed that he did not see the necessity of giving Veratrum a fair and impartial trial. The respect of a dutiful son for the teaching of his father, supported by the statement in Cushney's therapeutics that the drug might well be discarded from the pharmacopoeia, almost deterred me from the use of Veratrum in the treatment of pneumonia.

Impressed by continued favorable reports from some of my confreres, whose ability was unquestioned. I began using Veratrum, first in those selected cases which perhaps needed no drug at all. It was observed that these patients seemed to run a more even course, more comfortable generally, with certainly a more pleasing ratio between pulse and temperature than did the control cases on other treatment. This line of procedure was followed for several years with the same general observations noted, until today, in the light of present knowledge, I am convinced that Veratrum is the drug of choice in the treatment of any type of pneumonia regardless of age or physical status of the patient. Where there exists a complicating heart lesion, favor will doubtless lean to digitalis, however, in the face of such a complication, the prognosis is so gloomy that no treatment could offer much encouragement.

Not wishing to burden you with numerous case reports, permit me to mention collectively some thirty-five cases coming under my observation during the winter and spring of 1932. Two of this number had definite pre-existing heart lesions and were given digitalis. Their deaths were not altogether unexpected. All of the others were given Norwood's tincture Veratrum with uneventful recovery in every instance. I mention this particular group because it was unusual for me to see so many cases in such rapid succession with the results obtained so gratifying.

We are taught that Veratrum is used internally for the same purpose as aconite, for it slows the heart, lowers temperature and blood pressure, and while it is true that the heart beat is made slow and strong, I have observed no appreciable influence on the temperature. The blood pressure may even rise under the continued administration of Veratrum. In other words, blood pressure position is no index to the use of this drug.

With reference to method of administration, I have never used Veratrum exactly as prescribed by the maker of Norwood's tincture, viz, "To an adult give two drops every hour until the pulse drops to sixty-five or seventy-five per minute, then decrease dose as the symptoms require." If the drop mentioned is that from an ordinary medicine dropper, I am quite sure the amount is inadequate to secure the desired results. Further, unless the patient is in the hands of a competent nurse, which is often not the case, and as it is frequently impossible for the one in charge to make more than one daily visit, then, in my opinion, it would be unsafe and impractical to give at such close intervals the required amount.

Therefore, it is my rule to do my own dispensing in the following manner: place the index finger over the mouth of the dispensing bottle and drop into a glass the amount to be given over a period of thirty-six hours, which for the average adult for the first period is in doses of six to eight drops every three hours. Such a drop approximates one minim in quantity. To the thirty-six hour supply, twelve measures of water, usually from a teaspoon are added, with instruc-

tions that a measure be given every three hours, stirring or shaking well before each dose. Upon the return visit should the pulse rate be above one hundred per minute the dosage is increased by two or three drops. This rule does not apply in the case of young children as we expect a proportionately higher pulse rate according to age. In exceptional cases variations in the procedure outlined may be made, increasing or decreasing dosage as the pulse rate may suggest upon first examination. I strive to maintain a pulse rate around eighty though I have seen it drop to fifty with no untoward result. Vomiting may occur, but it is not the rule in non-toxic doses.

In conclusion may I add that Veratrum is not perfect, it is no specific in pneumonia, and it may not shorten the course of the disease, but as stated, patients seem to do well when you use it. There may be a better treatment, I trust there is, but to those of you who are discouraged with a high mortality from pneumonia, permit me to offer this simple and inexpensive drug.

HOW FAR SHOULD STATE HEALTH DEPARTMENTS GO?

Baby's Proper Feeding the Doctor's Problem. One of the most frequent inquiries received by the State Department of Health is that concerning an infant's diet. It is, of course, impossible for the Department to advise or give suggestions regarding a suitable diet for any infant. It apparently is not generally realized by the laity, that food requirements vary for every infant. One infant may thrive on a given food while the next will not tolerate it. Consideration must be given to the fundamental requirements of each infant such as the protein, fat, carbohydrate, water, mineral and vitamin requirements. So far as is known, breast milk is the only universally suitable food for infants. If a baby is deprived of this he should be taken to the family physician and placed on a proper feeding. It is only after a thorough history has been taken and a thorough physical examination has been made that the proper food can be advised for any infant. It is quite obvious that such service is out of the realm of the State Department of Health.

The Department, however, has literature on infant care that is available on request. The Children's Bureau at Washington also publishes some excellent pamphlets on infant and child care which should be read by every mother who wishes to give her child the best of care and training.—From Ohio Health News, November, 1934.

THE SURGICAL MANAGEMENT OF RENAL CALCULI*

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The diagnosis of stone in the kidney is only the first step of the investigation to be made in determining the ultimate outcome of the kidney involved. There are numerous urinary and extra-urinary conditions that produce symptoms so similar to that they can hardly be differentiated from the colic produced by renal stones. Renal tuberculosis, colon bacillus pyelitis, kidney tumors, ureteral strictures and stones compose the urinary conditions; whereas, appendicitis, cholecystitis, lesions of the stomach, the pancreas, sacro-iliac joint diseases, tabetic crises and angina pectoris are the ones usually found outside of the urinary tract. To differentiate these cases it is necessary that the urologist utilize every means of modern urologic investigation, and to often collaborate with the internist.

A divided function test of the kidneys together with the chemical determinations of the urea excreted gives one a fairly intelligent idea of the integrity of each kidney. A flat picture taken before and after the injection of the dye is of inestimable value in determining the location, number and size of the stones and in determining if the stone is of a shadow casting type. Phleboliths, calcified glands, calcification of the veins, fecoliths, and gall-stones all cast shadows which may be pronounced in the kidney were it not for the change in density of the shadow produced by the medium which can be seen if the stone lies within the kidney substance. Wax tipped catheters are sometimes of value in making a diagnosis if the stone is in the kidney pelvis. Intravenous pyelography has its place and is often resorted to in a questionable diagnosis but it is far inferior to retrograde pyelography.

Having the above findings to rely on, one is then confronted with what next to do. The general condition and age of the patient are to receive due consideration and to guide the fu-

ture treatment. The stones producing obstructions and the one causing severe pain are to be considered first. It¹ has been demonstrated that provided the repair procedure was successful and infection absent or mild, restoration of function was fairly satisfactory in cases even as longstanding as sixty days. In pyonephrosis and infected hydronephrosis there is likely to be an inhibition of reparation through the blood borne influences. The insertion of a large ureteral catheter is often a wonderful adjunct in affording relief to patients who are poor surgical risks. In dealing with unilateral stones, it is well not to be too conservative even though the stone is apparently a silent one, for the affected kidney usually becomes infected and subsequently a stone forms in the opposite kidney. It² is to be remembered that 12 per cent to 15 per cent of renal calculi occur bilaterally. The question then arises as to which kidney to deal with first. This is to be decided according to the immediate demands but as a general rule, it is good surgical judgment to always operate upon the best kidney first.

The location and size of the stone is the dominating factor in deciding on what operation to perform. A small stone, but too large for delivery by ureteral manipulations, in the pelvis or calyx of the kidney should be removed by pyelotomy provided it can be done without causing too much damage to the kidney pelvis. If the kidney pelvis is very large, one feels more justifiable in working through this route. One should feel very hesitant about opening a small kidney pelvis because of the danger of subsequent stricture formation. Any stone too large to be removed with safety through the kidney pelvis, or any stone in the parenchyma should be removed by nephrotomy.

It is interesting to note that the first true nephrotomy was performed in 1880 by Morris of England, who removed a stone from a non-suppurating kidney. The patient survived and many surgeons in England, America, and Germany followed Morris' example. Since that time many methods have been used to close kidney wounds. The most fool-proof method that we have today is the one devised by Dr. Oswald Swinney Lowsley³ in which he closes the kidney by tying broad

*Read before the Chattahoochee Valley Medical and Surgical Association, Radium Springs, Albany, July 10, 1934.

ribbon gut around the injured part of the kidney just as one would wrap a parcel with ribbon. By this method very little kidney substance is destroyed and one has perfect control of the bleeding.

In the event of either operation, due care is to be exercised in making sure that all of the stones have been removed. Heitz-Boyer⁴ and others use roentgen rays for some time on operating for removal of stones but this seems to be rather impractical. The insertion of a soft rubber catheter into the wound and washing thoroughly after removing the stones usually gets rid of all the fragments. And too, it is essential to leave a small soft rubber catheter in the kidney or the pelvis for irrigation and drainage over a period of a few days. When nephrotomy is done, I think it best to insert the catheter through the nephrotomy wound rather than close the wound and open the pelvis for the insertion of the catheter. Where the kidney substance is totally destroyed or partially destroyed and badly infected it is necessary to remove the organ, if the condition of the patient will permit it. If not, it should be drained and removed at a later date.

Once the stone is removed, it should not be held for demonstration but should be sent to the laboratory for a chemical analysis of its composition. By this means one builds a foundation upon which he can definitely deal with the prevention of re-formation of renal calculi. Many physicians are familiar with the patient who has subjected himself to all forms of examination and finally to operation only to reappear a few months later with a stone just a little larger than the primary one and in the same kidney. I recall the case of a school teacher who had stones removed by either pyelotomy or nephrotomy five different times. Since the last operation this dear old soul has felt more grateful to the promoters of dietary methods of controlling renal calculi than to the surgeon who removed the stones. It has been three years since her last operation and an examination a few months ago revealed the urinary tract negative for stones.

Ever since Marcet and Sheele⁵ did their early chemical analysis of urinary calculi various men have made efforts to change the

Ph. value of the urine in the hope of preventing the reformation of stones. The medicinal use of acids in alkaline stone formers has received a lot of attention and it seems that Randall¹ has obtained good results by this method. The untiring efforts of Dr. Stanley L. Wang at the James Buchanan Brady Urological Foundation, New York, has prompted me to be an advocate of the dietary method of preventing the reformation of renal calculi. As stated by Wang, the work is in a try-out stage, but I have seen such good results obtained from its use that I think it to be well worth considering in every stone case.

The theory of the diet method is to give a diet that is low in the element of the stone analysis, that is, if the stone is a calcium oxalate, the diet is low in that particular substance. An alkaline-ash diet is given to those patients whose stones are found to be acid in reaction, whereas, an acid-ash diet is prescribed for those cases whose stones are found to be alkaline in reaction. The diets have to be modified to suit the individual case in order to afford comfort to the patient and to control the reaction of the urine.

There are cases reported of an alkaline stone in one kidney and an acid stone in the opposite kidney but there is no definite proof that these stones were formed under the same conditions. I do feel that the above line of treatment, together with ureteral dilations, renal pelvic lavages, and repeated examinations will prevent many an unfortunate victim from suffering the untold anguish of renal colic and that his life will be markedly prolonged by the preservation of his kidney function.

Summary

1. Every case presenting symptoms of kidney pathology should have a complete urologic investigation.
2. The Lowsley type method of closing kidney wounds preserves the kidney substance.
3. Every stone passed or taken from the kidney or ureter should be analyzed.
4. An acid-ash or an alkaline-ash diet suitable to change the chemistry of the urine should be prescribed in all stone cases.

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ALLERGY*

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There is no desire on my part to enter into a discussion of this subject from the elemental side, for I believe that we generally understand the meaning of the term allergy, but do we understand the state of allergy in its various physical manifestations of the human being? There is likewise no disposition to discuss the too technical and theoretical aspects of this subject, for these far overbalance the practical facts governing the recognition and treatment of allergic conditions. Frankly most of our knowledge of this interesting subject is largely theory; that is, so far as the basic facts are concerned, yet every now and then new facts are discovered, and eventually of course we shall come to know more about this complex ailment. As facts of interest grow, so do new manifestations of the allergic states present themselves to us of the profession in varieties of expressions, from peculiar dermatitis reactions to close simulation of acute surgical abdominal conditions. Since 1929 the stress and strain of living has gradually increased, and in no field of medicine have there been so many new pathologic physical reactions as in the so called states of allergy or hypersensitiveness. Therefore we must ever be on the alert to recognize them and not subject such conditions to more hazardous types of physical management that the already "run down" body cannot perhaps well stand.

I believe there is not a one of us here, regardless of what specialty you are limited to, but what have seen more allergic reactions in the past three years than ever before. Hay fever, asthma, dermatitis, and dermal

reactions of every type, curious types of coryzas, curious abdominal pains, headaches, diarrheas, sore throats of unusual types, and joint and neuritic pains that cannot be classified within their respective places commonly known to us. How many digestive and diet disorders do we see in people who have never before had such trouble?

Every day or so we see in the medical publications and even the popular magazines something new about allergy, particularly as to designation, diagnosis, theories, etc., that should make us wonder if after all we do understand what the term allergy, or the physical state of allergy, is. As an example of such, I quickly list a few headings on allergy taken from Journals of the A. M. A., "Allergy from too much vitamins, from vitamin A deficiency, in maturation hypersusceptibility, allergic asthma nervous, allergy in pregnancy, endocrine, cold allergy and drowning, neuro-allergy, allergy from insulin recovery, milk and food allergy, drug allergy, non-protein and secondary allergies, allergy in animals, and gastro-intestinal allergy. Others too numerous to mention. It would seem necessary therefore that this discussion embrace the actual definition of allergy, its history, mechanism of action, theories of such, and a few citations as to the clinical or practical aspects of its curious phenomena and physical syndromes.

History

In 1798 Jenner made his first observation of allergy as it occurred in infectious disease. Magendi, in 1839, observed it in a rabbit which had subsequently been injected with egg albumen. Sixty-five years later, Theobald Smith noticed it after the injection of horse serum into an animal. Then came the curious effects noted after the injections of toxin and antitoxin such as diphtheria and tetanus. In 1901 Richet noticed the phenomena after injecting poison into dogs. In 1903 Arthus obtained allergic reactions from the injection of non-toxic substances such as serum and milk. This was the origin of the famous Arthus Phenomenon, that is "on injecting rabbits at definite intervals with normal horse serum, he found that several doses were apparently absorbed, whereas if he made later cutaneous injections severe local reaction

*Read before the Sixth District Medical Society, June 27, 1934, Louisville.

occurred. If the animals were injected first subcutaneously, then later by the intravenous or intraperitoneal route, severe symptoms ensued; such as dyspnea, convulsions, diarrhea, collapse and even death resulted. Thus the specificity of anaphylaxis or allergy was discovered.

Definition of Allergy

Dr. John Kolmer, one time Professor of Pathology and Bacteriology the Graduate School of Medicine, University of Pennsylvania, now Professor of Pathology at Temple University, has undoubtedly done the most extensive work in the allergic field here in the United States, and hence most of the theories and definitions will be quotations from his text and lecture notes. His definition of allergy based on the works and theories of Besredka and Doerr is as follows:

"That condition of unusual or exaggerated susceptibility to a substance which is harmless in similar amounts for the majority of members of the same species."

For convenience, Allergy is divided into two general headings:

Anaphylaxis: that state of unusual or exaggerated susceptibility of the organism to foreign proteins or protein derivative products.

Hypersensitiveness: that state of unusual or exaggerated susceptibility of the organism to non-protein substances such as drugs, chemicals, etc.

As in infection and immunity, this unusual or exaggerated susceptibility either in the form of an anaphylaxis or hypersensitiveness occurs under two conditions, the natural and the acquired states.

The Mechanism of Allergy

It is to be understood of course that the method of operation of allergy is pure theory, yet of course it is necessary for some hypothesis in order to have some working knowledge of any remedial measure. It is presumed that the substance producing the allergic reaction is some kind of a complex chemical agent to which the name of *Sensitogen* has been assigned. It is supposed to be the sensitizing agent. If the allergic reaction be due to a protein substance, then the intoxicating agent is known as an anaphylactogen.

As to how these sensitizing substances act to produce the allergic reactions, there are two main schools of thought or theory, viz; The *humoral* theorists who believe that these antibodies continuously circulate in the blood stream, and when the antigen or exciting substances contacts it, instant reaction occurs. The *cellular* theorists contend that the antibodies are within the tissue cells, and that before reaction can occur, it is necessary for the sensitizing agent or antigen to become attached or anchored to the cells. Professor Kolmer believes that the allergic phenomenon is due to a cellular colloidal reaction to be explained only on a basis of complex physical chemistry. Kolmer is in my opinion nearer right, and we all are entitled to our opinion on the matter. In my own opinion, I believe that it is purely a complex physical chemistry behavior whose variations are expressed through variations of the vascular, endocrine, and nervous systems all so closely allied in interdependent action and reaction that it is difficult to separate their integral features expressed in terms of physical symptoms and signs, but which nevertheless should be suspected in the curious cases that cannot be easily classified into the clinical groups which we commonly know. There is no question in my mind but what the stress and strain of the present day living through the complex medium of our neurologic to vascular, to endocrine overaction or retardation produces chemical unbalances which not only no longer offer us the protection against common susceptibility, but actually aids it by producing sensitizations against things that never before gave us an unpleasant feeling or thought so far as physical discomfort is concerned. It is well here perhaps to list a few facts about the protein sensitinogen, that is how its behavior may be altered:

In the physical state, protein sensitinogens are more powerful in a liquid state since they are capable of greater cell permeability, and complete cell sensitization is probably necessary for full reaction. Likewise, the solubility is a great factor in protein sensitization. Heat retards or even destroys these sensitizing agents. There are some proteins however which are not affected by heat so far as being sensitinogens are concerned. Such are caseins,

seed proteoses, beta-nucleoproteins. Sensitization is even affected by proteins in the volatile state; for instance, as exhaled in the breath of humans and condensed probably in a colloid form. This probably likely explains why some people are immediately seized with asthma or sneezing when they come near horses or other animals.

In the chemical state, protein sensitinogens depend on purity for their strength of allergic reaction. The purer is the protein, the greater the degree of sensitization, and the smaller the dose necessary to effect the strongest reaction. The entire protein molecule must be present to produce anaphylaxis. Besredka states that if a protein is heated, the anaphylactic reactions is less likely to produce a fatality. The vegetable proteins are just as capable of provoking anaphylaxis as the animal types.

I do not consider it necessary to list the chemical classification of the specific and non-specific proteins, believing instead that the physician is indeed wise who will first and always acquaint himself with the properties of any substance about to be injected into a human patient, for serious allergic reactions are not necessarily immediate in their appearance. We had better think a long while before injecting all kinds of treatments into human bodies, for goodness knows what we may be sensitizing them to on subsequent injections, perhaps months or years later, and in remote sections where the attending physician does not know of this previous exciting dose. It is a fact that in some sections of the country there is a widespread administration of quinine and quinine compounds intravenously for malaria, and even all other types of medicinal inoculations, and yet we know that there are perhaps just a few instances where such drastic treatment should be given, and it should rather be an heroic rather than a routine matter. I had a physician in one of our larger cities to tell me once that he administered most of his medication by hypodermic inoculation, and from his own words, that most of it was by the intravenous method. I hope that in this age and day he had learned better than that, and what a huge group of allergies his survivors must comprise.

Clinical Allergy

We now come to the discussion of allergic manifestations as seen every day in our practices. I will list the most common, and likewise enter a few uncommon ones in order that we become aware that the list grows.. As a foreword, Kolmer says that the lesions of allergy in man are large disturbances of the vasomotor system. Hyperemia with serious exudations are the most frequent, and according to the organ or organs involved, contribute most of the symptoms. The lesions and symptoms in man usually occur in the respiratory, alimentary, and cutaneous systems. Common allergies with which most of us are familiar are: Allergic bronchial asthma; allergic rhinitis; allergic skin lesions such as urticaria, angioneurotic edema, eczema, erythema multiforme, serum sickness from serum allergy; allergic vomiting, diarrhea, abdominal pain; hay fever reaction; drug and chemical allergies.

The beneficial allergic reactions employed in the diagnosis will only be mentioned in passing, as, various skin tests and reactions such as to determine susceptibility to bacterial proteins, foods, tuberculin, pollens, diphtheria, protozoa and fungi, streptothrix, lutein, mallein, abortin, typhoid fever, pneumonia, gonococcus smallpox, pertussis, echinococcus, ringworm and favus, pregnancy, probably cancer?

So numerous are the manifestations of allergy that it offers a considerable differential diagnostic problem: From the Journal A. M. A., November 14, 1931, Pages 1440 to 1445, there is an excellent discussion on *Gastro-Intestinal Allergy*, and so impressively important is it from a differential diagnostic standpoint that I shall quote freely from it. Albert H. Rowe, M.D., Oakland, California, is the author.

Quote:

"The frequency of gastro-intestinal symptoms arising from food allergy necessitates the writing of a new chapter in gastro-enterology. This is emphasized by my experience, which indicates that food allergy explains much gastric and intestinal distress, some of which has eluded satisfactory diagnosis in the past." Quoting further, Ab-

dominal Pain and Soreness: "Abdominal pain and soreness due to food allergy may occur in any part of abdomen, and may simulate acute as well as chronic conditions which may lead to unnecessary surgery. Colonic pain and soreness due to food allergy are quite common, occurring most frequently in the cecum and ascending colon and are due in part to the normal delay of food residues in this part of the bowel. A dull rather constant burning distress is characteristic. Former abdominal scars may become sore, suggesting adhesions. These symptoms may be confined to the lower part of abdomen, but more often the whole right side is involved. Allergic reactions may produce pain and soreness in any other part of colon. The sigmoid or rectum may be seat of localized allergy. In my opinion, the so called irritable bowel for which no satisfactory etiology has been found, may be due to food allergy. Symptoms suggesting acute appendicitis may be due to food allergy. Lintz has stressed this possibility and has felt that many appendices are removed unnecessarily because of such allergic reactions. My experience corroborates his opinion as evidenced by 32 appendectomies performed on my 150 patients with practically no relief. Allergic reactions in the cecum and appendix can predispose to secondary infection. The fact that acute allergy may produce fever as well as leucocytosis, must be kept in mind in the differential diagnosis. Eosinophilia moreover is not present in allergy necessarily. Pain and soreness in the lower right quadrant without rigidity necessitate the consideration of such sensitization as a possible cause. However, operation should not be postponed when involuntary rigidity and other typical symptoms of acute appendicitis are present, even though there is evidence of food allergy in the patient."

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sons" those who are sensitive to cold temperatures, particularly cold water, are rather subject to allergic shock, and should avoid ever bathing in cold water. Death has been known to result from this.

A Second Case of Gastro-Intestinal Allergy Due to Insulin: Journal of A. M. A., March 4, 1933. Very unusual allergic reaction always resulting when insulin derived from pork was used. When insulin derived from beef was used, no allergic reaction occurred.

Allergic Epilepsy: Reports of a case in a three year old child. Journal A. M. A., Nov. 28, 1931. Epilepsy due entirely to cheese sensitization. Allergy disappeared on removal of cheese from diet. Produced at will. Urges a careful investigation of all epileptic patients from an allergic standpoint.

Now in closing, I wish to tell you briefly about a patient that has just come under my care. He is an ex-Canadian soldier, a confirmed asthmatic whose poor body has been racked with every kind of remedy, and whose arms are fibrosed from the adrenalin hypodermics. There is a strong tuberculous history, yet to be confirmed. The strange thing about this man's condition that I call to your attention is that he is exceedingly sensitive to corn in any form, and to quote him, "even corn liquor." He states that to even take one drink of corn liquor means a severe asthmatic attack within a half an hour. Now that is a tragedy indeed, and, though pitifully comical, it exemplifies that in allergy everything of pleasure pertaining to the sensitive material is denied the patient, and seemingly only heat or the abstinence of the antigen means freedom from the allergic manifestation.

If we will bear in mind that allergy is *that condition of unusual or exaggerated susceptibility to substances* which are harmless in similar amounts to other members of the same species, and if we will apply this clinically to many of the obscure cases which fail our common everyday classification, then undoubtedly a few of these patients for whom all other medical remedies have failed will at least be made more comfortable, and spared perhaps the major manipulations and exposures unnecessary to the individual's safety.

THE MEASUREMENT OF THE WORK OF THE HEART AND ITS CLINICAL SIGNIFICANCE

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Griffin

It is the purpose of this paper to discuss the work done by the heart in providing the body with an adequate circulation, and to see how this work is measured, and to see what part abnormal work plays in the role of heart disease. In addition, we shall see what effect certain drugs have on this heart load.

From a physiological viewpoint one arrives at a very practical classification of heart disease. We may divide almost all instances of myocardial failure into two large groups. First, that group in which the heart is enlarged, the result of increased work, and second, that group in which the nutrition of the myocardium is disturbed, the result of disease of the coronary arteries. And, of course, combinations of these two. From this classification one may conclude that as long as there is no increased heart load, as from hypertension or valvular defects, and as long as the blood supply to the myocardium is adequate, there will be no heart failure. There are many cases of heart disease in which both these etiological factors are at fault—for example, hypertensive heart disease, and sclerosis of the coronary arteries as well.

A third etiological factor, but one very much less frequent, is toxic degeneration of the muscle from bacterial or drug poisons. Instances of clinical heart disease from this cause however, are rare.

Being most interested at the moment in the cardiac load, let us list the principal conditions that increase the work of the heart. Most important is hypertension; next is a valvular defect, offering an obstruction to the flow of blood, or an incompetency allowing blood to flow backward in the wrong direction; third is an abnormal extracardiac situation that mechanically interferes with cardiac contraction, as in adhesive pericarditis; and fourth, metabolic changes that demand increased supply of blood to the body tissues, as hyperthyroidism or anemia.

Increased work of the heart will practically

always, in time, result in hypertrophy; and a hypertrophied heart is always a diseased heart. Congestive failure will eventually result if the condition progresses for a sufficient length of time. In investigating the physiology of diseased hearts, therefore, measurement of the work done by the heart is of extreme importance. Likewise, in studying the effect of drugs on the circulation, estimation of cardiac load is essential.

We calculate the effective work of the heart by measuring the amount of blood expelled per minute, and, using the average or mean blood pressure as a measure of the force to be overcome, we multiply these two factors, and arrive at figures representing the actual work accomplished. There are corrections to be made, but for practical purposes these are not important.

Blood pressure can be accurately and easily measured, but even this only in recent years. As for the measurement of the cardiac output, the technique is not so simple. Since Harvey discovered the circulation in 1628 attempts have been made to estimate the rate of the circulation, but it was not until 1870 that a man named Fick¹ announced a principal that has become the basis and the cornerstone of methods that have enabled us to actually measure the cardiac output. This principal is quite simple. It holds that in mammalia all blood pumped by the heart passes through the lungs, where interchange of oxygen and carbon dioxide takes place, and that if the gaseous content of the blood is determined before and after passage through the lungs, and if the amount of the gas used or excreted by the body is known, then the cardiac output is just a matter of simple arithmetic. That is, knowing the amount of carbon dioxide excreted per minute, and knowing the amount disposed of by 100 cc of blood, the amount of blood necessary to carry the load is easily calculated, and we have the amount of blood passing through the lungs in one minute.

Fick obtained mixed venous blood by right ventricular puncture, and arterial blood by arterial puncture, in animals. The oxygen used per minute, or the carbon dioxide excreted, he calculated using the ordinary metabolism apparatus. He thus measured the cardiac output in animals, using what is called the direct method. Cardiac puncture in

man, however, is a hazardous procedure, but it was done in 1930 without mishap by Lauter, Baumann and Friedlander, and thus the circulation was measured directly in man. This acted as a check on indirect methods, in use for the past twenty years or more, and serves as a standard of normal.

These indirect methods are simple, at least in theory. The carbon dioxide method is one of those most frequently used in the past². The CO₂ content of the alveolar air from the lungs has been shown to be in equilibrium with the CO₂ of the arterial blood, and so analysis of the alveolar air gives us the CO₂ content of the arterial blood. Likewise, by rebreathing into a closed rubber bag for a given period of time, air will be obtained in equilibrium with the CO₂ of the mixed venous blood. Thus right ventricular puncture and arterial puncture are unnecessary. The CO₂ excreted per minute is measured by the usual metabolism apparatus, and this is divided by the arterio-venous difference in CO₂ expressed in volume per cent. The result is the cardiac output in cc. per minute. The entire procedure requires two people about two and one-half hours.

Having arrived at a method of measuring the cardiac output, and being able to measure the blood pressure, we can now measure the effective work of the heart. For purposes of simplicity, however, in conditions in which the blood pressure is normal, we shall consider the output per minute as a relative measure of the effective work.

We are able to measure the effective work of any heart not diseased, and likewise of any diseased heart, until failure causes sufficient congestion in the lungs to interfere with gaseous exchange, in which case we cannot collect samples of air in equilibrium with the blood.

Unfortunately, it is not possible to measure accurately the actual load under which the heart works in all conditions. With hearts having valvular or septal defects, and in which there is external interference, as in dense pericardial adhesions, we can measure only the effective work done. There is no way for us to determine accurately the amount of extra work necessary to force blood through a stenosed valve. We can however, measure the *effective* work, that is, the

actual amount of blood expelled by such a heart. In conditions where there is no such mechanical interference, for example, in hyperthyroidism, and in studying the effects of drugs, we can calculate the *actual* load under which the heart is working.

Let us examine the cardiac output under various conditions. The normal heart, during absolute rest, pumps approximately 4,000 cc. per minute from each ventricle, and averages 45. to 65 cc. per beat,³ depending upon the rate. Under normal conditions, the rate does not affect the output, other factors remaining the same. In different individuals, the output varies directly with the surface area of that person, just as does the metabolism, and under basal conditions, remains the same day after day and month after month.³ Posture, per se, according to the most recent experiments has little or no effect.³ A heavy meal increases the cardiac output almost 50 per cent.³ This means the heart is called upon to increase its work more than 50 per cent, because such a meal increases the blood pressure as well. This is analgous to mild exertion and explains attacks of angina, and even attacks of coronary occlusion in susceptible individuals following a banquet or the like.

Anger, resentment and apprehension increase the output in proportion to the strength of the emotion.³ An increase of 25 per cent or more is frequent, accompanied by a rise in blood pressure. We are reminded that coronary deaths are not uncommon in anger.

Exercise increases the cardiac output tremendously, often to 25 liters per minute,⁴ and the increase is roughly proportional to the rise in metabolism. There are two types of response to exercise, however. One is characteristic of the average untrained individual, and the other is the response of training.^{4,5} The oxygen consumption and the metabolism in these two conditions is alike for a given amount of exercise. The difference is in the cardiac output, per minute and per beat, and what is called the oxygen utilization, which is the percentage of the available oxygen that is withdrawn by the tissues from the arterial blood. The well trained individual responds to exercise with a relatively small increase in cardiac output, a slower heart rate, and a much larger output per beat than the un-

trained individual, made possible by a much larger percentage of oxygen utilization. The untrained person is unable to extract such a large percentage of oxygen from the blood, nor is he able to increase to such an extent his output per beat. He must satisfy the increased demand for oxygen by a relatively greater increase in output per minute, and a very rapid heart rate. This explains why exertion causes such breathlessness and heart pounding in those not used to exercise. "Second wind" may be explained by adjustment of increased percentage of oxygen utilization, which increases suddenly the available supply of oxygen to the tissues, and at the same time lessens the demand on the heart. Bearing in mind these thoughts, we can understand more clearly why proper exercises help those individuals with neurocirculatory asthenia, in whom the usual response is that of the untrained individual, in an exaggerated form.

During sleep, the cardiac output is little affected, being the same as when awake.² As for hot baths, 22 minutes in water at 90 degrees F. will double the cardiac output, and 100 degrees F. has been known to quadruple it.³ This warns us to be careful about prolonged hot baths in our elderly patients, particularly those with heart disease. On the other hand, it provides an excellent means of increasing the circulation in conditions where it seems advisable. A tepid or slightly warm bath lasting several minutes is probably harmless. Cold baths cause a slight drop in the output when there is no shivering.³

An increased amount of blood is required in anemia,⁶ beginning when the hemoglobin reaches 75 per cent, and the output of the heart is doubled when the hemoglobin is between 30 and 40 per cent. In hyperthyroidism the cardiac output may be increased 80 per cent or more.⁷ This explains why the heart is so affected in this disease. Whether there is actually myocardial degeneration in addition is still a matter of dispute. Most authorities believe that there is. When the normal thyroid is removed and the metabolism is reduced, the cardiac output falls 20 or 30 per cent below normal. This is why removal of the normal thyroid gland is considered

rational treatment in certain types of heart disease.⁸

Much interesting and valuable information has been accumulated by the study of the effect of drugs on the minute volume of the circulation. Alcohol, in 15 cc. doses, causes no effect. A 35 cc. dose increases the output about 10 per cent, probably due to vasomotor reflexes from the gastrointestinal tract.⁸ The effect on the circulation of larger doses has not been studied, but there is evidence to show that wines and occasional small toddies cause no harm to our cardiac patients, especially if they are accustomed to receiving them. Caffeine citrate in 5 grain doses causes no measurable change in the circulation.⁹ Larger doses have caused variable responses, and conclusions are not warranted; but in moderation, it would seem that coffee and tea can do no harm to those with heart disease, provided sleeplessness or restlessness does not develop. Moderate smoking by habitual smokers causes no appreciable change in the cardiac output.³

Digitalis action is at first confusing. It decreases the output of the normal heart, but increases it where there is circulatory failure. In an individual with an enlarged heart, but well compensated, digitalis will very likely cause a slight transient increase in output, with a return to a normal level. The capacity of the ventricular chambers and the presence or absence of any dilatation very probably have a great deal to do with the effect of digitalis on the circulation. One gram of this drug given to a normal healthy person reduces the cardiac output one-third below normal in twenty-four hours, and the x-ray shadow of the heart is decreased 6 per cent.⁹ At this time there is very apt to be dyspnoea and cardiac pain on exertion. This would seem to warn us that digitalis may be the wrong drug to give patients with no organic heart disease. Certainly it would be contraindicated in those individuals with palpitation, transient heart pains, fatigue and pseudodyspnoea, which we often call neurocirculatory asthenia. In the condition of shock, with a decreased cerebral circulation, marked fall in venous pressure, a decrease in venous return to the heart, and a marked fall in cardiac output and arterial pressure, a condition in which the cardiac action is not at all at fault, but which

is the result of periphrenal dilatation and failure of the venous return to the heart, digitalis would seem not only not indicated, but rather, definitely contraindicated. There is nothing to gain through digitalis action on the heart in such a situation, and digitalis in therapeutic doses has never been known to have any effect on the peripheral vascular bed. The treatment now in use, of stimulating the venous return by adrenalin and venous infusion of blood or saline are more rational, and therapeutically effective. The circulatory situation in febrile illnesses is often of a similar nature. The peripheral vascular bed is the factor to be watched, and digitalis administered in such illnesses as pneumonia has been shown valueless, if not actually harmful.

As for decompensated heart disease, digitalis increases the tone of the myocardial fibres, decreases the size of the heart shadow by x-ray, and has been demonstrated to increase the output of the decompensated heart 15 per cent or more.⁹ This explains the clinical improvement which follows proper digitalis administration. The cardiac output can be increased by digitalis during failure, because the ventricular chambers are dilated and enlarged, and the venous return is under increased pressure, and the natural result of increased muscle tone under these circumstances is increased output. In the normal heart, however, the decrease in heart size from digitalis in all probability interferes so much with ventricular filling that a lowered output results.

Investigation into the cardiac output of diseased hearts has been interesting. The circulatory minute volume in hypertensive heart disease without failure is within normal limits.³ The increased work is purely related to the increased blood pressure. In compensated mitral stenosis, aortic insufficiency with or without stenosis, and in complete heart block with a ventricular rate of 40, the cardiac output is normal, both at rest¹⁰ and upon exercise.⁵ One interesting case may be cited.⁵ A boy of sixteen had mitral stenosis and advanced aortic insufficiency. He was able to do only the milder grades of exercise used in the experiments, and was so fatigued and dyspnoeic following the exercise that he almost collapsed. That night he had a pulmonary hemorrhage and was in bed two days. Yet

at rest and during exercise his cardiac output was equal to that of other patients, and to normals for the same amount of exercise. His oxygen consumption, arteriovenous difference, and pulmonary ventilation were correspondingly normal. One wonders, then, why he had dyspnoea?

The explanation lies in the changes that took place in the pulmonary circulation. Due to the stenosed mitral valve, and due to the impairment of left ventricular function from aortic insufficiency, the pulmonary capillary bed became engorged, the alveolar walls became dilated and stiffened, changes leading to diminished vital capacity. It would seem that reflexes between the lungs and the respiratory center are responsible for dyspnoea in early heart failure. It is only in later stages of circulatory failure with generalized oedema and cyanosis that deficient circulation to the respiratory center influences respiration.

Let us consider for a moment abnormal rate and rhythm. An irregular rhythm decreases the efficiency of the circulation and diminishes the cardiac output in two ways.⁵ First by pulse deficit. Measurements of the cardiac output show that in auricular fibrillation without congestive failure the output is diminished 25 to 30 per cent below normal if there is a pulse deficit of 20 to 25 per minute. Therefore, in treating our cardiac patients with auricular fibrillation it is extremely important to keep the rate slowed with digitalis and rest, in order to eliminate all pulse deficit. Only in this way can we utilize all the energy of the damaged heart. The explanation probably lies in an interference with ventricular filling when diastole is too greatly shortened. This is true of auricular fibrillation and extra systoles as well.

The cardiac output may be decreased by auricular fibrillation in another way,—that is, in mitral stenosis.⁵ Other things being equal, the cardiac output increases 28 to 30 per cent in mitral stenosis immediately upon reversion to normal rhythm by quinidine sulphate. This is most likely because rhythmic contractions of the auricle aid in the forcing of blood through the narrowed mitral valve. Therefore we are encouraged to maintain a regular rhythm in mitral stenosis as long as possible, and to treat early fibrillation with

quinidine, thus maintaining a higher percentage of efficiency of the cardiac effort.

As for abnormal rates, these also may interfere with cardiac efficiency. It is only with considerable increase in ventricular rate, however, that the output is lowered. Within reasonable limits, the output per minute is unchanged, but with more rapid rates, that is, 160 and above, the output may be decreased, due no doubt to interference with ventricular filling by short diastole. Rates around 200 have been known to decrease the output 50 per cent.¹¹ If this rate should continue more than a day or so the patient develops cyanosis, dyspnoea and an enlarged liver. Embolism may result from mural thrombi that form due to slowed circulation. Continued over a very long period of time there is evidence to show that tachycardia may result in hypertrophy of the heart.

Slow rates, contrary to what one might suspect, do not impair the circulation. In complete heart block with a ventricular rate of 40, the output is normal¹⁰ and the response to moderate exercise is unimpaired.⁵ Enlargement of the heart takes place, possibly due to increased ventricular filling and the necessity for a strong contraction on a larger amount of blood. The output per beat may reach 200 cc. with exercise.

In considering all that we have learned concerning the output of the heart, we are compelled to realize that the amount of blood expelled by the heart is not a function of cardiac activity alone, but is determined largely by the venous return to the heart. This venous return is controlled by one of the most wonderful, automatically regulated systems known to science, the neurovascular mechanism. The normal heart, and even the diseased heart, until the impairment in myocardial function is in an advanced stage, will deliver exactly the amount of blood required to maintain the constant and proper internal environment, supplying the tissues according to their needs.

319 S. Eighth Street.

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SCREW WORM INFECTION OF THE NASAL MUCOSA

Case Report

R. W. RICHARDSON, M.D.

Macon

Screw worms are maggots of a fly (*Chrysomia Macellaria*) so called from their fancied resemblance to a screw. The adult fly is about 1-3 inch in length, bluish green body, red eyes and with three dark longitudinal stripes on its back. The female lays from 300 to 400 eggs at a time in cuts, sores and old wounds of warm-blooded animals. The eggs hatch in a few hours and the larvae or screw worm immediately begins to burrow, this process continues for three to ten days, when the maggots crawl into the earth and transform into the quiescent stage. This stage lasts from nine days to two weeks when the mature fly will appear.

Infection with screw worms is increasing alarmingly in our domestic animals and due to the prevalence of the fly, humans are also being attacked. The symptoms characteristic of this infection are first irritative with the protective responses depending upon the portion of the body attacked. The fever rises rapidly and may reach 103 or 104 degrees, maintaining this level until the worms have been destroyed, it then gradually approaches normal; the pulse is correspondingly high and often times shallow. A severe pain is present and which the patient will describe as boring and pinching. From the wound there issues a serosanguineous discharge of very foul and penetrating odor. A neutropilic leukocytosis is present, the average total being between 15,000 and 20,000 W. B. C. per cmm, the R. B. C. will drop to 3,000,000 per cmm. and hemoglobin to 60 per cent.

*Case reported at the staff meeting of the Macon Hospital, September 27, 1934, Macon.

The urine may show a moderate amount of albumin.

Case Report

Annie A, colored, aged 36. Complaint: Severe pain in nose and left cheek.

P. I. Two days before admission the patient had a severe sneezing spell which lasted for twenty-four hours. This was followed by pain and then a sero-sanguineous discharge. On one occasion maggots were found in the discharge.

Examination: The patient is a well developed and fairly nourished negro.

Nose: Markedly swollen and the left nostril practically closed. On deep examination, screw worms were seen. A foul discharge issued from the wound.

Face: Swelling and tenderness over the left maxilla.

Mouth: The breath was very foul, the roof of the mouth was covered with a purulent mixture of destroyed tissues and maggots. The perforation was complete into the nostril, the size of a half dollar. Speech was correspondingly difficult and food taken was detoured through the nose.

LABORATORY REPORTS

9-1-34

WBC 16,000
Neut. 67%
S. L. 27%
L. L. 6%
Hb 70%

Larvae from nose: *Chrysomyia Macellaria*.

9-3-34

Urine Amber
 1.025
 Acid
 Albumin 4 plus
 Sugar neg.
 Casts: Occasional hyaline
 Pus cells 1 plus
 R B C a few

9-3-34

X-ray skull and sinuses: neg.

9-5-34

Wassermann :: neg.

9-6-34

W B C 9,600
Neut. 66%
S. L. 28%
L L 6%
R B C 3,650,000
Hb 75%

9-5-34

X-Ray: There is slight cloudiness of both maxillary antra more marked on right side. No other lesion can be demonstrated in the examination of the skull.

Treatment: The treatment at first was designed to destroy the maggots and to counteract the odor. Those maggots which could be seen were picked out of the wound. Then a pledget of cotton saturated in chloroform was inserted into each nostril and roof of the mouth, and left in place for five minutes. Following this procedure irrigations of a 1% phenol solution and a 1:5000 potassium permanganate solution were

given alternately every hour. The last screw worm was seen seven days after admission into the hospital, and a total of seventy-six were recovered.

When the wound was cleaned of the maggots treatment was established which would have as its object the closure of the perforation. The patient left the hospital twenty-six days after admission, swallowing food without difficulty and the opening in the palate the size of a penny.

INSULIN IN THE TREATMENT OF TYPHOID FEVER

JOS. H. HINES,† M.D.

JOHN R. WALKER,* M.D.

Atlanta

During the past summer, those of us residing at Grady Hospital and coming in close touch with its patients were forcefully impressed with the seriously ill typhoid patients, who came to this institution. We were impressed that these patients, unlike those we had seen the previous seasons, were not mildly ill, but truly sick. They presented the picture likened unto those we were told that typhoid patients were in the pre-vaccination days. They were septic; they revealed the true picture of a typhoid sepsis that had been described in text-books of our college days, as delirium, diarrhea, high temperature, (102-105 F.), dicrotic pulse, along with all the laboratory findings which were truly positive. We especially noticed a severe diarrhea, a symptom always mentioned but less often seen in the present day cases. These cases had the sordes typical of those we read about and were the true picture of the old time typhoid of the Spanish War days, as told by our preceptors. These patients would not take food, refused water, and all were typical of a serious condition that called for early action.

Besides our routine treatment these patients were given forced fluids and concentrated liquids by means of duodenal tube. In spite of this plan, seriously carried out, little or no results were seen after a trial period of 45 to 72 hours.

At our conferences and after lengthy discussions of all suggested plans of treating this disease, one of us suggested that since the most important as well as the most often

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neglected part of the treatment of typhoid fever was preservation and care of metabolism, that if food could be given these patients in sufficient quantity they could be helped and no doubt saved. Therefore, it was agreed that all seriously ill typhoid patients would be given insulin in 3 unit doses t.i.d., a.c., and be increased to 10 units as its value was shown.

These patients were chosen in ratio of two males to one female and all were proven to be of the severe type as above described. The diet was forced fluids, fruit juices, citrated milk, barley gruel, etc., which was the same diet as before the institution of insulin.

We were well rewarded, for in a short time we saw the septic symptoms begin to clear up, temperature to lower, delirium to subside, and we were able to discontinue use of the tube for forced feeding, as well as start a regime of soft diet which was easily taken up to a point of 4500 calories of our own special diet.

The diet prescribed was accurately calculated before being served and all not taken was weighed and deducted thereby insuring the above mentioned diet.

We continued our step up plan of the use of insulin until 10 units was given t.i.d. 30 min a.c., and this point was never exceeded.

The result in these cases was most satisfactory since the patients following the fourth day of insulin therapy ran a mild course, an uncomplicated convalescence, and made a complete recovery. Further study was done upon children and our results with insulin treated cases were so much better than in the control cases that we continued the plan uninterrupted throughout the season.

It is not our intention to claim a "Cure All" for insulin in the treatment of typhoid fever, but we do desire to call your attention to our work in order that others may add this to their plan and ascertain for themselves its value. We intend to report the exact number of cases with our attached statistics in the near future in order to prove the value of what we believe is a most valuable adjunct to the plan of treatment of typhoid fever.

Grady Hospital,
Atlanta, Georgia.
October 1, 1934.

APPENDICITIS ASSOCIATED WITH MULTIPLE LIVER ABSCESES

Report of Case

FRANK K. BOLAND, JR., M.D.
Atlanta

The following case is presented in order to call attention to some rather unusual complications of appendicitis:

The patient was a 26-year-old former star football player, married and having one child two years old. When a child he had had a very bad case of typhoid fever. The rest of his history is negative up until three years before the onset of the present illness, when he had a severe injury to the right lower chest during a football game. He broke several ribs, and internal injuries were feared, but he recovered after about two weeks and was able to continue playing.

The next illness occurred in December of last year, (1933) when he was seen with severe pain in his right upper quadrant, with slight rise in temperature, jaundice, bile in urine and a blood count of 10,000. He recovered from his attack, called catarrhal jaundice, in about two weeks.

About the first of May of this year (1934) he was taken ill in Florida, with jaundice, pain, temperature running around 103°, and leukocytes about 10,000. A diagnosis was not made and he was brought up to South Georgia in a car. He still had a little fever, jaundice, bile in urine, white blood count of about 10,000, pain, and tenderness over the gallbladder. After a few days of x-raying and examining which revealed nothing very definite, he began to feel fairly well, but about June 1st he had an acute attack of pain in the right upper quadrant, with blood count of 20,000, temperature 101°, and Dr. R. M. Ware advised immediate operation. Incision was made midway between the appendix and gallbladder. The appendix was found perforated and lying up under the liver. The appendix was removed and drains placed to appendiceal fossa and pelvis. The gallbladder and upper abdomen were not examined. Right lower lobar pneumonia developed the next day. After the operation he became very jaundiced, temperature rose and stayed around 106° for several hours, soon to fall, and a diagnosis of subphrenic or liver abscess was made. About the middle of June, when his condition improved a little it was decided to operate again.

A needle was introduced in the sixth interspace of the right chest and blood with some pus was withdrawn. A stab wound was made and a catheter introduced, but no more pus escaped and this wound was closed.

The first incision was extended upward. The gallbladder was bound down by dense adhesions. No abscesses were found on the liver, or in the subphrenic space. The gallbladder was drained through a stab wound. During these three weeks the patient was gradually developing a fecal fistula. Bile did not drain

from the wound in the gallbladder until the tube was removed. The bile then began pouring out and the jaundice gradually decreased.

The patient was brought to Atlanta around the first of August. He had a large fecal fistula from his right rectus incision. There were several openings in the fistula and pus was pouring from a cavity in the pelvis and also along the right gutter. The gallbladder wound was healed, but there was a pin point fistula at the site of the stab wound, from which bile poured continuously. Only a slight amount of jaundice was detectable. Temperature ran a septic curve. Blood count around 12,000. Patient was markedly emaciated and had no appetite. The abdomen was flat. His bowels moved occasionally. Attempts were made to build the patient up with food and fluids, but to no avail. All the usual methods for closing fecal fistula were tried, such as suction, bismuth paste, etc. After a few days it was evident that his fistula was so large that it could not be closed by ordinary methods. On August 9th the patient received 500 cc. blood and several thousand ccs. saline intravenously. Two days later he was given another blood transfusion, and an attempt was made to close the fecal fistula by doing an ileo-colostomy through a left rectus incision. The distal end was not closed due to fear of obstruction. No exploration was done at this time, since the condition of the patient did not permit.

The ileo-colostomy worked only fairly well. The patient did pass a large amount of gas and occasionally some feces through the rectum, but most of the feces came out of the abdomen. The biliary fistula remained unchanged. Anorexia and emaciation continued worse. It was thought that possibly these factors were due to lack of bile in the digestive tract. We therefore tried to give the patient his own bile, which was collected from the biliary fistula and inserted into the stomach through a Levin tube, but he immediately vomited.

Vomiting was becoming more regular and his condition more desperate. Finally he vomited everything he ate or drank. We thus concluded that the adhesions around the gallbladder had blocked off the duodenum. It was decided to do a jejunostomy, which was done through a left rectus incision. Bile was collected from the biliary fistula and poured into the jejunostomy, along with peptonized milk, water, etc. An attempt was made to connect the jejunum and biliary fistula with rubber tubes over the abdomen, so that there would be a continuous passage of bile into the intestinal tract. This procedure was partially successful. The patient had two more transfusions, continuous saline, but never reacted from the last operation. He died August 23rd, about three months after the onset in Florida.

Autopsy by Dr. Kracke showed a walled off pelvic abscess containing about a quart of thick greenish pus. There were also abscesses along the left side of the abdomen all the way up to the diaphragm. The abscess walls were well-developed, showing that this cavity had been present for some time. Masses of ad-

hesions seemed to isolate each cavity. The biliary fistula was found to be a straight tract, about three inches long, to the gallbladder, which was plastered by very dense adhesions to the duodenum, liver and abdominal wall, being practically immobile. No stones were found. The duodenum and common duct were compressed by dense adhesions. All the intestines were covered by a plastic exudate and there was hardly a loop that was not adherent to another loop. The stomach was dilated and some adhesions were present to the great omentum. The fecal fistula was found to lie between the cecum and ascending colon. They were surrounded by abscess cavities. The ileo-colostomy and jejunostomy were closed tight and did not leak. There was no evidence of any malignancy or tuberculosis. Although the liver looked normal from the outside, it was filled with multiple small abscesses.

We can only speculate as to the sequence of events. Whether the previous injury and typhoid fever played any part we cannot say. The most logical conclusion seems that the appendix was the original focus and that the liver abscesses were secondary, although we could not disprove that the appendicitis was secondary to a primary liver abscess.

HONOR ROLL FOR 1935

1. Randolph County, Dr. W. G. Elliott, Cuthbert, December 7, 1934.
2. Habersham County, Dr. O. N. Harden, Cornelia, December 19, 1934.
3. Monroe County, Dr. G. H. Alexander, Forsyth, January 4, 1935.
4. Franklin County, Dr. Stewart D. Brown, Royston, January 15, 1935.
5. Dougherty County, Dr. Alex R. Freeman, Albany, January 31, 1935.
6. Hancock County, Dr. H. L. Earl, Sparta, February 25, 1935.
7. Turner County, Dr. J. H. Baxter, Ashburn, February 26, 1935.
8. Ware County, Dr. Kenneth McCullough, Waycross, March 7, 1935.
9. Whitfield County, Dr. H. J. Ault, Dalton, March 8, 1935.
10. Elbert County, Dr. A. S. Johnson, Elberton, March 15, 1935.

Emily Dunning Barringer, New York (Journal A. M. A., Dec. 15, 1934), states that vaccine therapy is not a specific for the cure of gonorrhea. It is, however, probably a valuable form of treatment in the acute and subacute stages of the disease. This is probably true also in chronic cases in which the main offending organism is the gonococcus. It is probably not of value in cases due to "mixed" infection. In the acute and subacute stages, vaccine therapy will probably shorten the period of hospitalization. However, the great drawback of severe reaction from this treatment, especially with large doses, is to be considered. It is questionable whether large doses are justifiable, because of these reactions.

THE JOURNAL

OF THE

MEDICAL ASSOCIATION OF GEORGIA

Devoted to Welfare of Medical Association of Georgia

139 Forrest Avenue, N.E., Atlanta, Ga.

MARCH, 1935

THE ATLANTA SESSION

The eighty-sixth annual session of the Medical Association of Georgia will be held in Atlanta with headquarters at the Atlanta Biltmore Hotel, May 7-10, 1935. The Committee on Scientific Work has completed a program of outstanding importance covering all phases of medicine, surgery and the specialties.

The House of Delegates will be called to order by the President, Dr. C. L. Ayers, at 2:30 o'clock on Tuesday afternoon, May 7, in the Georgian Ballroom at which time reports will be read by the officers and chairmen of the standing and special committees. It is anticipated that most of the business of the session will be completed on Tuesday, so that there will be as little interference as possible with the presentation and discussion of the scientific papers. In order that this may be accomplished, the President has requested that all officers, chairman of committees and delegates who wish to introduce reports and resolutions, do so in writing at the opening meeting of the House of Delegates.

The Abner Wellborn Calhoun Lecture will be delivered by Dr. Lewellys F. Barker of Baltimore, whose subject will be: "The Treatment by the General Practitioner of the More Common Diseases of the Nervous System."

On Wednesday night addresses will be delivered by our invited guests, Dr. Reuben L. Kahn, whose subject will be: "Newer Concepts of Immunity and Allergy"; and Dr. Austin L. Hayden, who will discuss the works of the American Medical Association and show a movie depicting its activities.

A special feature of the session will be a Symposium on Pediatrics which will be held on Wednesday afternoon. This has been arranged so it will be of particular value both to the general practitioner and pediatricians.

The Committee on Scientific Work has arranged a special scientific exhibit for the benefit of members and visitors. Three certificates of merit to be known as First, Second and Third prizes will be given to the three outstanding scientific exhibits.

A complete copy of the official program will be published in the April issue of the Journal. This issue will also carry a copy of Constitution and By-Laws of the Association with all amendments brought up-to-date.

COMPULSORY HEALTH INSURANCE

The Committee on Public Relations of the Medical Society of the State of Pennsylvania, of which Dr. William H. Mayer of Pittsburgh is chairman, has prepared the following release, which has been sent to more than 2,000 industries in that state:

"There are concerted efforts on foot to socialize the practice of medicine. Should these succeed, general socialization will be under way.

"The Columbia Broadcasting System is broadcasting each week, on Monday evening, over sixty-one stations, discussions dealing with socialization of medicine, which are predominantly propaganda in favor of this socializing effort.

"The American Association for Social Security, Inc., Abraham Epstein of New York City, executive secretary, has prepared a proposed health insurance bill for introduction into the 1935 state legislatures.

"This proposed law shall establish a state health insurance bureau and commission and build up a state health insurance fund from three sources: 1.5 per cent employers' payrolls paid by the employer; 3 per cent of the wages of employees (deducted by employers and transmitted to the state fund), and 1.5 per cent of the total payroll of employers appropriated from tax funds.

"Their model bill also proposes to combine cash benefits with medical, hospital and dental care. This means that the employer will pay his large share directly and bear his burden as an already heavy taxpayer.

"The business interests of Europe have already suffered as a result of this scheme, which in England in 1933 cost through parliamentary grants \$24,000,000 and in Germany gave clerical employment to 34,300 persons.

"Business men and industrialists should not willingly promote socialization of business and industry in America. If the practice of medicine is socialized, the entering legislative wedge will have been gained.

"Will you not therefore first urge your legislative representatives to discourage the disrupting activities of the 'American Association for Social Security' which is promoting these socialization schemes through active lobbies; second, use your influence with the Columbia Broadcasting Company to prevent the propaganda

for the creation of an expensive bureaucracy ultimately destructive of good medical service.

"The Medical Society of the State of Pennsylvania through its Public Relations Committee will be glad to correspond with you further."—*Jour. A. M. A.*, Feb. 16, 1935.

HOUSE OF DELEGATES ADOPTS POLICIES ON SICKNESS CARE

The special session of the House of Delegates called at the request of the Board of Trustees met in Chicago, February 15 and 16. As will be apparent from the minutes of the House, to be published in the *Journal* next week, the session opened with a statement by the Board of Trustees, giving the record of the Association in relationship to this subject and propounding to the House of Delegates six questions of moment. After much general discussion, the speaker of the House of Delegates referred the entire discussion on these six questions to a reference committee, which then brought in a report to the House. This report was unanimously adopted by the House after suitable correction and amendment. It is important that every member of the American Medical Association read carefully this statement of policies and support it to the utmost with his patients and with representatives in state legislatures and in the federal government. The report of the reference committee opens with a preamble stating in general the point of view of the American Medical Association and its right to speak for the profession on this subject:

The American Medical Association, embracing in its membership some 100,000 of the physicians of the United States, is by far the largest medical organization in this country. The House of Delegates would point out that the American Medical Association is the only medical organization open to all reputable physicians and established on truly democratic principles, and that this House of Delegates, as constituted, is the only body truly representative of the medical profession.

The House of Delegates commends the Board of Trustees and the officers of the Association for their efforts in presenting correctly, maintaining and promoting the policies and principles heretofore established by this body.

The primary considerations of the physicians constituting the American Medical Association are the welfare of the people, the preservation of their health and their care in sickness, the advancement of medical science, the improvement of medical care, and the provision of adequate medical service to all the people.

These physicians are the only body in the United States qualified by experience and training to guide and suitably control plans for the provision of medical care. The fact that the quality of medical service to the people of the United States today is better than that of any other country in the world is evidence of the extent to which the American medical profession has fulfilled its obligations.

The first question propounded by the Board of Trustees to the House of Delegates was "Shall or shall not the American Medical Association reaffirm its opposition to compulsory sickness insurance?" The House of Delegates replied to this question in no uncertain terms. It said:

The House of Delegates of the American Medical Association reaffirms its opposition to all forms of compulsory sickness insurance whether administered by the federal government, the governments of the individual states or any individual industry, community or similar body. It reaffirms also its encouragement to local medical organizations to establish plans for the provision of adequate medical service for all the people, adjusted to present economic conditions, by voluntary budgeting to meet the costs of illness.

The medical profession has given of its utmost to the American people, not only in this but in every previous emergency. It has never required compulsion but has always volunteered its service in anticipation of their need.

The second question propounded was based on the fact that the Committee on Economic Security, appointed by President Roosevelt, in its report to Congress on January 17 had stated tentatively eleven principles which it believes fundamental to its plan of compulsory health insurance and which apparently would form the basis of the further report on this subject to be a part of the message sent to Congress by the President on March 1:

The Committee on Economic Security, appointed by the President of the United States, presented in a preliminary report to Congress on January 17 eleven principles which that committee considered fundamental to a proposed plan of compulsory health insurance. The House of Delegates is glad to recognize that some of the fundamental considerations for an adequate, reliable and safe medical service established by the medical profession through years of experience in medical practice are found by the committee to be essential to its own plans.

However, so many inconsistencies and incompatibilities are apparent in the report of the President's Committee on Economic Security thus far presented

that many more facts and details are necessary for a proper consideration.

The Wagner bill for economic security has been discussed in previous issues of the Journal. It is an act which provides for unemployment insurance and old age pensions. It also provides federal subsidies to the individual states and additional funds for maternal and child welfare, for the care of the crippled and for the United States Public Health Service. In making the bill effective, it provides for setting up a social insurance board in the Department of Labor. The House of Delegates of the American Medical Association recognized that its primary concern must be with those aspects of the measure concerned in the field of medicine and the public health. It recognized, however, that the original drafts of the Wagner bill indicated that sickness insurance also would be placed under the social service board already mentioned. Therefore the House of Delegates said:

The House of Delegates recognizes the necessity under conditions of emergency for federal aid in meeting basic needs of the indigent; it deprecates, however, any provision whereby federal subsidies for medical services are administered and controlled by a lay bureau. While the desirability of adequate medical service for crippled children and for the preservation of child and maternal health is beyond question, the House of Delegates deplores and protests those sections of the Wagner bill which place in the Children's Bureau of the Department of Labor the responsibility for the administration of funds for these purposes.

The House of Delegates condemns as pernicious that section of the Wagner bill which creates a social insurance board without specification of the character of its personnel to administer functions essentially medical in character and demanding technical knowledge not available to those without medical training.

Recognizing the fact that the individual states are immediately concerned with the bill for sickness insurance now being proposed by the American Association for Social Security, the House of Delegates voiced its strong condemnation of this measure. In a brief statement the Journal called attention a few weeks ago to many of the features of this legislation which place it utterly beyond any kind of consideration from a medical point of view. The House of Delegates said:

The so-called Epstein bill, proposed by the American Association for Social Security, now being promoted with propaganda in the individual states, is a

vicious, deceptive, dangerous and demoralizing measure. An analysis of this proposed law has been published by the American Medical Association. It introduces such hazardous principles as multiple taxation, inordinate costs, extravagant administration and an inevitable trend toward social and financial bankruptcy.

Throughout the country there seems to be some demand for presentation by the American Medical Association of a plan whereby county medical societies and the medical profession generally may be able to arrange with the public for a better distribution of medical service. More than ten years ago the House of Delegates recognized the desirability of such plans and authorized county medical societies, with the approval of state medical organizations, to put into effect various schemes for enabling the public, particularly in the lower income levels, to obtain adequate medical service at costs that were within their means. At the special meeting of the House of Delegates, several of these plans were brought specifically to the attention of those present. The reference committee gave careful consideration to all these plans and also to an account of some 150 plans already in operation which have been analyzed by the Bureau of Medical Economics. After this consideration, the reference committee reported:

The committee has studied this matter from a broad standpoint, considering many plans submitted by the Bureau of Medical Economics as well as those conveyed in resolutions from the floor of the House of Delegates. It reiterates the fact that there is no model plan which is a cure-all for the social ills any more than there is a panacea for the physical ills that affect mankind. There are now more than 150 plans for medical service undergoing study and trial in various communities in the United States. Your Bureau of Medical Economics has studied these plans and is now ready and willing to advise medical societies in the creation and operation of such plans. The plans developed by the Bureau of Medical Economics will serve the people of the community in the prevention of disease, the maintenance of health and with curative care in illness. They must at the same time meet apparent economic factors and protect the public welfare by safeguarding to the medical profession the functions of control of medical standards and the continued advancement of medical education requirements. They must not destroy that initiative which is vital to the highest type of medical service.

In the establishment of all such plans, county medical societies must be guided by the ten fundamental principles adopted by this House of Delegates at the annual session in June 1934. The House of Delegates would again emphasize particularly the necessity for

separate provision for hospital facilities and the physician's services. Payment for medical service, whether by prepayment plans, instalment purchase or so-called voluntary hospital insurance plans, must hold, as absolutely distinct, remuneration for hospital care on the one hand and the individual, personal, scientific ministrations of the physician on the other.

Your reference committee suggests that the Board of Trustees request the Bureau of Medical Economics to study further the plans now existing and such as may develop, with special reference to the way in which they meet the needs of their communities, to the costs of operation, to the quality of service rendered, the effects of such service on the medical profession, the applicability to rural, village, urban and industrial population, and to develop for presentation at the meeting of the American Medical Association in June model skeleton plans adapted to the needs of populations of various types.

The importance of this special session of the House of Delegates cannot be overemphasized. It represents clearly the point of view of the medical profession as announced through its delegates elected on a truly democratic principle. Physicians who wish to preserve to the medical profession the right to say how medicine shall be practiced, their initiative in diagnosis, treatment and investigation of disease, and the intimate personal relationship that must exist between doctor and patient for the best results, will place behind these policies all the individual support they are able to muster.—*Jour. A. M. A.*, Feb. 23, 1935.

SCIENTIFIC EXHIBIT ATLANTA MEETING MEDICAL ASSOCIATION OF GEORGIA

It is the pleasure of the Committee on Scientific Work of the Medical Association of Georgia to make the following announcement:

The Committee will award three certificates of merit to be labeled, first, second, and third prizes for the best scientific exhibit at the next meeting of the Medical Association of Georgia, which will be held in Atlanta on May 8th, 9th, and 10th. These awards are given in order to stimulate better exhibits. If you have anything of interest please communicate immediately with the Chairman on Scientific Work, or Dr. Mark S. Dougherty, 139 Forrest Avenue, N.E., Atlanta.

JOSEPH YAMPOLSKY, M.D., *Chairman,*
Committee on Scientific Work.

COUNTIES REPORTING FOR 1935

Chattooga County Medical Society

The Chattooga County Medical Society announces the following officers for 1935:

President—F. W. Hall, Summerville.

Vice-President—R. E. Talley, Trion.

Secretary-Treasurer—H. D. Brown, Summerville.

Censors—B. F. Shamblin, N. A. Funderburk, and R. N. Little.

Cobb County Medical Society

The Cobb County Medical Society announces the following officers for 1935:

President—J. W. Ellis, Kennesaw.

Vice-President—W. G. Crawley, Jr., Acworth.

Secretary-Treasurer—W. C. Mitchell, Smyrna.

Delegate—W. H. Perkinson, Marietta.

Alternate Delegate—W. M. Gober, Marietta.

Censors—G. F. Hagood, W. M. Gober and A. H. Fowler.

Thomas County Medical Society

The Thomas County Medical Society announces the following officers for 1935:

President—E. F. Wahl, Thomasville.

Vice-President—H. A. Ainsworth, Thomasville.

Secretary-Treasurer—Rudolph Bell, Thomasville.

Censors—C. H. Ferguson, L. L. Lundy and J. N. Isler.

Gwinnett County Medical Society

The Gwinnett County Medical Society announces the following officers for 1935:

President—W. H. Hutchins, Buford.

Vice-President—W. W. Puett, Norcross.

Secretary-Treasurer—A. D. Williams, Lawrenceville.

Delegate—D. C. Kelley, Lawrenceville.

Alternate Delegate—W. T. Hinton, Dacula.

Censors—W. P. Ezzard, W. T. Hinton and D. C. Kelley.

Colquitt County Medical Society

The Colquitt County Medical Society announces the following officers for 1935:

President—T. H. Chesnutt, Moultrie.

Vice-President—H. T. Edmondson, Moultrie.

Secretary-Treasurer—W. R. McGinty, Moultrie.

Delegate—C. C. Brannen, Moultrie.

Alternate Delegate—J. E. Lanier, Moultrie.

Censors—J. B. Woodall, W. L. Bennett and J. E. Lanier.

Terrell County Medical Society

The Terrell County Medical Society announces the following officers for 1935:

President—Guy Chappell, Dawson.

Vice-President—J. H. Lewis, Dawson.

Secretary-Treasurer—S. P. Kenyon, Dawson.

Delegate—Steve P. Kenyon, Dawson.

Alternate Delegate—J. T. Arnold, Parrott.

Clayton-Fayette Counties Medical Society

The Clayton-Fayette Counties Medical Society announce the following officers for 1935:

President—J. A. Lester, Fayetteville.

Vice-President—H. D. Kemper, Jonesboro.
 Secretary-Treasurer—T. J. Busey, Fayetteville.
 Delegate—J. R. Wallis, Lovejoy.
 Alternate Delegate—E. C. Seawright, Fayetteville.

Carroll County Medical Society

The Carroll County Medical Society announces the following officers for 1935:

President—S. F. Scales, Carrollton.
 Vice-President—H. L. Barker, Carrollton.
 Secretary-Treasurer—D. S. Reese, Carrollton.
 Delegate—W. C. Lyle, Carrollton.
 Alternate Delegate—C. C. Fitts, Carrollton.

Sumter County Medical Society

The Sumter County Medical Society announces the following officers for 1935:

President—J. C. Logan, Plains.
 Vice-President—A. C. Primrose, Americus.
 Secretary-Treasurer—S. A. Scruggs, Americus.
 Delegate—H. A. Smith, Americus.
 Alternate Delegate—S. P. Wise, Americus.

Turner County Medical Society

The Turner County Medical Society announces the following officers for 1935:

President—H. M. Belflower, Sycamore.
 Vice-President—F. W. Rogers, Ashburn.
 Secretary-Treasurer—J. H. Baxter, Ashburn.

Hancock County Medical Society

The Hancock County Medical Society announces the following officers for 1935:

President—Horace Darden, Sparta.
 Secretary-Treasurer—H. L. Earl, Sparta.
 Delegate—H. L. Earl, Sparta.
 Alternate Delegate—C. S. Jernigan, Sparta.

Hall County Medical Society

The Hall County Medical Society announces the following officers for 1935:

President—W. R. Garner, Gainesville.
 Vice-President—E. W. Grove, Gainesville.
 Secretary-Treasurer—Hartwell Joiner, Gainesville.
 Delegate—J. H. Downey, Gainesville.
 Alternate Delegate—H. H. Lancaster, Clermont.
 Censors—C. J. Wellborn, W. C. Kennedy and Hartwell Joiner.

Jackson-Barrow Counties Medical Society

The Jackson-Barrow Counties Medical Society announce the following officers for 1935:

President—A. A. Rogers, Commerce.
 Vice-President—C. B. Lord, Jefferson.
 Secretary-Treasurer—J. T. Stovall, Jefferson.
 Delegate—C. B. Almand, Winder.
 Alternate Delegate—P. T. Scoggin, Commerce.

Washington County Medical Society

The Washington County Medical Society announces the following officers for 1935:

President—S. B. Malone, Sandersville.
 Vice-President—N. J. Newsom, Sandersville.

Secretary-Treasurer—O. D. Lennard, Tennille.
 Delegate—N. J. Newsom, Sandersville.
 Alternate Delegate—R. L. Taylor, Davisboro.

Cherokee County Medical Society

The Cherokee County Medical Society announces the following officers for 1935:

President—R. M. Moore, Waleska.
 Vice-President—N. J. Coker, Canton.
 Secretary-Treasurer—G. C. Brooke, Canton.
 Delegate—G. N. Coker, Canton.
 Alternate Delegate—D. H. Garrison, Tate.

Dooly County Medical Society

The Dooly County Medical Society announces the following officers for 1935:

President—H. A. Mobley, Vienna.
 Secretary-Treasurer—M. L. Malloy, Vienna.
 Delegate—V. C. Daves, Vienna.

Elbert County Medical Society

The Elbert County Medical Society announces the following officers for 1935:

President—F. A. Smith, Elberton.
 Vice-President—W. A. Johnson, Elberton.
 Secretary-Treasurer—A. S. Johnson, Elberton.
 Delegate—J. E. Johnson, Jr., Elberton.
 Alternate Delegate—W. A. Johnson, Elberton.

Ware County Medical Society

The Ware County Medical Society announces the following officers for 1935:

President—W. C. Hafford, Waycross.
 Vice-President—R. C. Walker, Waycross.
 Secretary-Treasurer—K. McCullough, Waycross.
 Delegate—W. F. Reavis, Waycross.
 Alternate Delegate—D. M. Bradley, Waycross.

Upson County Medical Society

The Upson County Medical Society announces the following officers for 1935:

President—R. L. Carter, Thomaston.
 Vice-President—J. E. Garner, Thomaston.
 Secretary-Treasurer—John D. Blackburn, Thomaston.
 Delegate—F. M. Woodall, Thomaston.
 Alternate Delegate—T. B. Taylor, Thomaston.

Burke County Medical Society

The Burke County Medical Society announces the following officers for 1935:

President—J. M. Byne, Jr., Waynesboro.
 Vice-President—W. R. Lowe, Midville.
 Secretary-Treasurer—R. L. Miller, Waynesboro.
 Delegate—R. L. Miller, Waynesboro.
 Alternate Delegate—W. C. McCarver, Vidette.

The JOURNAL would like to record the scientific work of Georgia doctors. It earnestly requests, therefore, that each physician in the State who publishes a contribution in some other medical periodical submit an abstract of the article for these columns.

GEORGIA DEPARTMENT OF PUBLIC HEALTH

T. F. ABERCROMBIE, M.D., *Director*

COUNTY HEALTH WORK

About a century ago, Disraeli said "To conserve the health of his people is the first duty of a statesman." The truth of this statement is so potent that it requires no comment and has been reiterated by statesmen of every age since his time. Most of the people of Georgia agree with Disraeli and consider disease prevention one of the most important functions of state government.

Physicians were the originators of preventive medicine and have been supporters of public health work from time immemorial. All Georgia is proud of the stand which has been taken for this work by the medical profession. No class of society is better qualified to judge the value of health work than the physicians, and no one will doubt that when a large percentage of people seek advice of physicians, before they are really sick, conditions will be improved.

The results of public health work and its value are difficult to compute and comparisons are hard to make. The educational work of a well organized health unit is beneficial in surrounding counties and good results are noted in these counties also. Notwithstanding this, in almost every case morbidity and mortality rates are found to be lower in health officer counties than in neighboring counties.

Absence from school caused by sickness is reduced after organized health work has been done in a county for a few years and many other benefits are noticed by all observers.

Public and private statements made by members of the medical profession of Georgia seem to agree with a report made by the medical society of Cass County, North Dakota, following a five-year demonstration in maternal and child hygiene.

Following, we quote a few comments of the physicians of Cass County.

"Women report well for prenatal and postnatal care."

All are agreed that if the unenviable record of maternal deaths in Georgia is to be lowered, it must be through better education of the expectant mothers and adequate prenatal care, and that morbidity resulting from child birth must be lessened by better obstetrics and through postnatal attention. Adequate prenatal care will also result in a greater number of babies who are born well and have a better chance of a long life, as well as reducing the number of stillbirths.

"Health centers for infants and pre-school children have served as a stimulus for mothers to seek authoritative health advice for their children, instead of their own fancies or the advice of friends."

"Better response in supervision of well infants."

"Am seeing more children in my practice than previously."

The substitution of scientific advice for that of ignorant and superstitious neighbors can only give the baby a better chance for life.

"In orthopedic cases the physician has had frequent opportunity to discourage the use of unscientific and non-medical methods of treatment."

This means a little more work for the physician, but is a boon to these unfortunate children.

"More attention to nose, throat, and eyes of apparently healthy children."

"At least one school child a week for refraction."

These specialists get a chance to put these children in condition to take full advantage of educational facilities provided for them.

"Distinct tendency of better class of adults to call for periodic physical examinations."

"Good response for periodic examination of adults."

The average span of human life has been remarkably lengthened by saving the lives of infants and children, and many have despaired of teaching health to adults. The two comments above seem to refute this idea. Indeed, from statements of these individual members of the Cass County Medical Society, it appears that beneficial results were obtained from this demonstration for all ages of the population from infancy to old age, including the prenatal period.

Recognizing the value of public health work and that the county was the proper unit for a demonstration of this principle, the General Assembly passed Georgia's health law, popularly known as the Ellis Health Law, in 1914. While only a small number of counties in Georgia have taken advantage of the local option part of this law, forty to fifty per cent of the total population has been receiving the benefit of county health work for a number of years.

A new impetus was given this work recently when an emergency appropriation was made to the U. S. Public Health Service to be used in aiding rural health work. It is remarkable that, notwithstanding the financial depression of the last few years, those counties have continued to give health protection to their people; that at the beginning of 1935 more counties belonged to this group than at the beginning of 1934. It is also true that there was an increase in the activities of the health units in Georgia during 1934, as compared with previous years.

These results have been possible only through the cooperation of the medical profession. County health work in any particular county has succeeded in direct ratio to the support of the local physicians, and in such counties the doctors have continued their cooperation.

GUY G. LUNSFORD, M.D.,
Director, County Health Work.

BOOK REVIEWS

Davis' Applied Anatomy. Revised by George P. Muller, M.D., Professor of Clinical Surgery, Graduate School of Medicine, University of Pennsylvania; Surgeon, Misericordia and Lankenau Hospitals, Philadelphia. Assisted by Bernard J. Alpers, M.D., Assistant Professor of Neurology, Graduate School of Medicine; Robert A. Kimbrough, Jr., M.D., Associate in Obstetrics and Gynecology, University of Pennsylvania; Sterling W. Moorhead, M.D., Assistant Professor of Urology, University of Pennsylvania; I. S. Ravdin, M.D., Professor of Surgical Research, University of Pennsylvania; and S. Dana Weeder, M.D., Surgeon, Germantown Hospital. Pp 717, with 675 illustrations, some colored. Ninth edition, revised. Cloth. Price, \$10.00. J. B. Lippincott Company, Philadelphia.

A marked improvement over the last edition, not only brought up to date but edited from a practical rather than a didactic point of view. This is not a text-book on gross anatomy. It is a book that points out the application of anatomical facts to the explanation of normal functions, and traumatic and pathological derangements of the body, as well as their utility in actual practice. The main facts of fundamental anatomy are alluded to briefly. Then the structure of the part in relation to its functions is considered, and finally the relation of the various structures to affections of that part is discussed in detail. This work contains information eagerly sought by the practitioner.

EDGAR BOLING, M.D.

Obstetric Medicine. Fred L. Adair, M.A., M.D., F. A. C. S., Mary Campau Ryerson, Professor of Obstetrics and Gynecology; Chairman, Department of Obstetrics and Gynecology, University of Chicago; and Edward J. Stieglitz, M.S., M.D., F. A. C. P., As-

sistant Clinical Professor of Medicine, Rush Medical College, University of Chicago. Pp 743, with illustrations, 2 colored. Cloth. Price, \$8.00. Lea & Febiger, Philadelphia.

Quite frequently medical conditions arise in obstetrical "patients" which tax the ingenuity of the medical attendant to the utmost. The treatment instituted is primarily medical but must be altered by the presence of pregnancy. This compilation coordinates and correlates the medical knowledge of a group of distinguished contributors concerning problems of diagnosis, therapy, and prognosis of disease occurring coincidentally with pregnancy. Its material is of common interest to specialists and general practitioners in the management of obstetrical patients.

EDGAR BOLING, M.D.

GIFT TO UNIVERSITY OF GEORGIA SCHOOL OF MEDICINE, AUGUSTA

Dr. G. Lombard Kelly, Vice-Dean of the University of Georgia School of Medicine, Augusta, announces a gift of \$18,000.00 from Mrs. John W. Herbert of New York and Augusta, for the furnishing and equipment of the new wing of the University Hospital. This donation was made as a memorial to the late husband of Mrs. Herbert and to two of their children, Mrs. Gertrude Herbert Dunn and John Oliver Herbert.

The first floor of this building, which was named for Milton Antony, who founded the medical school in 1828 is the new outpatient department of the University Hospital, while the second floor is a contagious disease hospital. Funds for erection of the structure, which cost \$90,000.00, were obtained from the Alumni Association of the School of Medicine, a Public Works Administration grant, the City of Augusta and the County of Richmond.

PHYSICAL EXAMINATIONS

FEDERAL EMERGENCY RELIEF ADMINISTRATION

To the Editor:

You might say to the other counties over the state, if they should ask you anything in reference to the Georgia Emergency Relief examinations for 50c, that the Whitfield County Medical Society, and the doctors in Catoosa, Gordon and Murray counties are not having anything to do with it until they are willing to pay us a reasonable fee for doing the work. We don't think it is fair to the doctors to ask them to do it for such a pitiful fee and every one else who is working for the government getting a fat salary, and taxing us to pay for it. We feel that if there ever was a time when the doctors need to stick together and stand up for their rights, it is now. We are at the forks of the road and unless we stand together as one united body our profession will be cast into oblivion in so far as individual rights are concerned.

H. J. AULT, *Secretary*
Whitfield County Medical Society.

Dalton, Ga.

February 13, 1935.

WOMAN'S AUXILIARY

OFFICERS

President—Mrs. J. E. Penland, Waycross.

President-Elect—Mrs. E. R. Harris, Winder.

First Vice-President—Mrs. Ralph H. Chaney, Augusta.

Second Vice-President—Mrs. J. M. Barnett, Albany.

Third Vice-President—Mrs. G. Hugo Johnson, Savannah.

Recording Secretary—Mrs. Warren A. Coleman, Eastman.

Corresponding Secretary, Mrs. B. H. Minchew, Waycross.

Treasurer—Mrs. Chas. H. Richardson, Macon.

Parliamentarian—Mrs. Mather M. McCord, Rome.

Historian—Mrs. M. F. Haygood, Alto.

Chairman Public Relations—Mrs. Evert A. Bancker, Jr., Atlanta.

Chairman Press and Publicity—Mrs. J. Bonar White, Atlanta.

Chairman Legislation—Mrs. Dan Y. Sage, Atlanta.

Chairman Students' Loan Fund—Mrs. Benjamin Bashinski, Macon

AN AUXILIARY MEMBER SHOULD KNOW

A Medical Auxiliary serves the medical profession and through it the public. Such service is satisfactory, because it is unselfish. An Auxiliary is always organized with the permission of the medical society and should have an advisor or advisory committee to direct it. The Auxiliary should make an annual report to its society and undertake no new project without approval.

The principal functions of an Auxiliary are: health education, public relations, legislation (reserve force) philanthropy, social.

The laity requires education, but it should be given through the medical profession, so there may be rational control of what the public thinks and does in health activities. Most important objective of an Auxiliary is to direct public actions and thinking in channels the medical profession desires to extend authentic information on health. We only support an organization when we are a member and we understand the tasks and objectives and how to accomplish them. An Auxiliary member, therefore, should attend as many meetings as possible, so she may:

1. Understand the purposes and objectives of her Auxiliary.
2. Receive the particular charge given by local, state, Southern and national.
3. Receive instruction in how to fulfill that charge.
4. Become informed about:
 - a. Personal and community hygiene.
 - b. Administration of local, state, national health.
 - c. Medical and health laws, local, state, national.
 - d. The health of her community.
 - e. Communicable diseases; their prevention and control.
 - f. Her health in relation to her community.

- g. General problems of health all should know.
- h. Approved educational material; where to obtain it.
- i. The development of the medical arts.
- j. Why the A. M. A. urges the promotion of Hygeia; how done.
- k. What legislation the medical society sponsors; why; how the Auxiliary acts as a reserve force; what the individual may do.
- l. Philanthropic work related to the medical profession; service by her Auxiliary; what her Auxiliary is doing; why.
- m. What lay organizations are doing in her community.

How does a member support her Auxiliary?

By:

1. Paying dues.
2. Attending meetings.
3. Accepting offices, chairmanships in other organizations, especially those related to health, so—
 - a. Informed speakers may address them.
 - b. Approved material may be given.
 - c. Programs and projects be undertaken which are scientifically sound.
 - d. So she may keep informed about medical matters and activities in other organizations.
 - e. Report to her president and society programs and projects which are unwise and unacceptable. Report through advisors.
4. Promote good fellowship by affability at meetings; by attendance at entertainments and conventions; by assisting as requested.
5. By fulfilling the charges given through the advisors.

The busy wife is an asset to the Auxiliary, if she is an *informed member*, because she has many opportunities to carry the aims and

decision of the medical profession and keep health leadership where it belongs—with the profession. As a member, she may speak with authority, receive respect and attention that will be missing as an unattached doctor's wife. It is not necessary to partake of every phase of Auxiliary work to be a good member, only what one can do. She should know when to keep quiet, when to report to advisors; when to answer and what to say. If for no reason but to assemble regularly and study the history of the medical arts and the medical heroes, an Auxiliary would be worthwhile, because it would give wives an understanding of the supreme unselfishness and greatness of the profession. But that it helps her to be a better wife, mother, citizen can not be denied.

The time has come when the Auxiliary has so proved its worth that the question is not, are you an Auxiliary member, but why are you not a member?

Fulton County

The Fulton County Auxiliary held a most successful health education meeting February 14th at the Academy of Medicine in Atlanta. A heavy rain did not interfere with a splendid attendance of representatives from organizations in Fulton and DeKalb counties, over 150.

The meeting was welcomed by Mrs. H. H. Askew, President, who introduced Mrs. Ed Greene, Chairman of Health Education of the Auxiliary. Mrs. Greene explained the reasons for the meetings then introduced Dr. Edgar D. Shanks, President of the Fulton County Medical Society. Dr. Shanks spoke briefly on the importance of public health and introduced the public health chairman of the society, Dr. Glenville Giddings, who took charge of the program.

The program was according to the educational charge of the Auxiliary, maternal and infant welfare and cancer.

Status of Maternal Welfare in Georgia.

Maternal care, before and after birth.

Infant care.

Cancer; what is it? cancer in adults.

Cancer in children; with slides.

Immunization; through hygiene; through serums.

Health Film, *Man Against Microbes*.

Educational Material was distributed and the meeting closed with a message from Mrs. Greene.

Washington County

The Washington County Auxiliary held its quarterly meeting in January and a pro-

gram on medical heroes planned for the year in addition to the regular work. Though one of the smaller auxiliaries, this one, under Mrs. J. B. Dillard, has all the officers, chairmen recommended by our State and A.M.A. Auxiliaries. New officers elected were:

President.....	Mrs. James B. Dillard
1st Vice-President.....	Mrs. W. M. Cason
2nd Vice-President.....	Mrs. O. D. Lennard
Secretary.....	Mrs. E. S. Peacock
Parliamentarian.....	Mrs. S. B. Malone
Historian.....	Mrs. J. B. Dillard
Press and Publicity.....	Mrs. L. C. Mitchell

Tenth District Auxiliary

The Tenth District Medical Auxiliary held its mid-winter session in February at the home of Mrs. Henry Cobb, Athens, with the District Manager, Mrs. D. M. Carter, of Madison, presiding.

Mrs. H. W. Birdsong of Athens, welcomed the members and Mrs. G. T. Harper of Hartwell, responded.

Mrs. J. E. Penland, State President, gave a resume of the work the State Auxiliary had done since the convention in May. She urged all Auxiliaries to observe Doctors' Day and to make plans at once. Fulton, Chatham, Bibb, Ware, Barrow and others began their plans in January.

Reports from Clarke, Richmond, Morgan, Elbert, Hart, Franklin and Madison counties were stimulating. Elbert and Madison had glowing reports of Child Welfare Councils—\$750 and \$700 respectively have been raised to forward work in that field.

Mrs. R. H. Chaney, President of Richmond County Auxiliary, reported a pledge of \$50 for the Student Loan Fund, invaluable service to the University Hospital, the Nurses' Training School and Medical College. This county has distributed 965 health pamphlets of the Auxiliary. The superintendent of schools is using material in all city and county white and colored schools.

Mrs. J. D. Gray, Tenth District Health Chairman, reported 3030 health leaflets and pamphlets in the district. These were distributed to all sections and with the promise of recipients to use them. It is always the goal of the Auxiliary to give only where material will be appreciated and not to merely dispose of it.

At the close of the business session, Mrs. Carter read an original poem, a beautiful tribute to the doctors, then another original by Mrs. G. T. Bernard of Augusta.

Program for the Atlanta meeting will be published in the April issue of the JOURNAL.

NEWS ITEMS

The Georgia Medical Society, Savannah, met on February 12th. Dr. Ruskin King read a paper entitled *The Diseases of the Newborn*; discussed by Dr. E. N. Gleaton and Dr. H. F. Sharpley, Jr. Dr. H. J. Morrison reported two cases of *Interlobar Empyema*. Dr. R. V. Martin discussed the *Proposed National Social Insurance Act*.

Dr. Albert Fleming, Folkston, entertained the members of the Ware County Medical Society at a shad supper on February 6th.

Dr. Floyd W. McRae, Atlanta, has loaned to the A. W. Calhoun Medical Library, Emory University, a medical book written by Ambroise Pare in Latin, and published in Paris in 1582, entitled *L'Opera Chirgica*. The book was purchased in Rome, Italy, by Mrs. McRae last year.

The Tenth District Medical Society met at the Clarke county court house on February 13th. Dr. H. W. Birdsong, Athens, read a paper entitled *Duodenal Stasis*; discussed by Dr. Ralph H. Chaney, Augusta, and Dr. C. E. Wills, Washington. Dr. G. O. Whelchel, Athens, *Cardiac Clinic*; discussed by Dr. V. P. Sydenstricker, Augusta, and Dr. H. I. Reynolds, Athens. Dr. H. B. Harris, Athens, *Typhoid Carrier*; discussed by Dr. W. W. Brown, Athens, and Dr. H. W. Callison, Augusta. Dr. W. J. Williams, Augusta, *Iodine Therapy in Diseases of the Thyroid Gland*; discussed by Dr. E. A. Wilcox and Dr. W. J. Cranston, both of Augusta. Dr. W. R. Houston, Augusta, *Sleep*; discussed by Dr. Eugene E. Murphey, Augusta.

The members of the Masonic Fraternity at Augusta on February 14th presented a Giant Magnet to the University Hospital, Augusta, as a memorial to the late Dr. William Crissy Kellogg of Augusta. Dr. Kellogg was professor of ophthalmology and otolaryngology in the University of Georgia School of Medicine for many years.

The Fulton County Medical Society met at the Academy of Medicine, Atlanta, February 21st. Dr. J. Will Roberts reported a case, *An Operation for the Anastomosis of the Common Duct and Duodenum—Lantern Slides*; Dr. Geo. W. Fuller made a clinical talk on *Lord Lister and Presented Patient Operated on by Lister*; Dr. E. D. Highsmith read a paper entitled *The Possibilities of Plastic Surgery—Lantern Slides*. The discussions were led by Dr. T. C. Davison, Dr. Calvin Sandison and Dr. W. E. Person.

The Clinical Society of the Piedmont Hospital, Atlanta, met on February 11th. Cases reported were as follows: *Hodgkin's Disease*, by Dr. Harold M. Bowcock and Dr. Everett L. Bishop. *Carcinoma of Lungs*, by Dr. Carter Smith.

The annual meeting of the Grady Hospital staff was held on February 12th. Officers were elected for the ensuing year.

The staff meeting of the Crawford W. Long Memorial Hospital, Atlanta, was held on February 14th. Dr. John F. Denton read a paper entitled *Malignant Lesions of the Vulva*.

The annual meeting of the Fulton County Medical Relief Association was held at the Academy of Medicine, Atlanta, on February 5th. Officers elected for the ensuing year were as follows: Dr. C. W. Roberts, President; Dr. Edgar Boling, Vice-President; Dr. M. F. Fowler, Secretary; Dr. B. T. Beasley, Treasurer.

The Tattnall County Medical Society met at the Collins Hotel, Collins, on February 6th. Dr. R. G. Wilkes, Collins, druggist, entertained the members to a shad dinner. Dr. G. W. Tootle, Glennville, reported a case, *Treatment of Hemorrhoids*; Dr. R. B. Kicklighter, Glennville, case of *Spina Bifida*.

The staff meeting of the Crawford W. Long Memorial Hospital, Atlanta, was held on February 14th. Dr. John F. Denton read a paper on *Malignant Lesions of the Vulva*.

The Georgia Conference on Social Work will hold its annual meetings in Columbus on April 14-17.

The Georgia Medical Society, Savannah, met on February 26th. Dr. H. L. Levington read a paper on *Meniere's Disease*; discussed by Dr. Robert Drane, Dr. G. H. Lang and Dr. J. R. Broderick. Dr. S. F. Rosen reported a case, *Untoward Reaction with the Intravenous Use of Typhoid Vaccine*.

The Chatham-Savannah Tuberculosis Association met at the Georgia Medical Society Hall, Savannah, on February 14th. Dr. T. F. Abercrombie, Atlanta, Director of the Department of Public Health, spoke on, *The Work and Procedure of the Georgia Department of Public Health in the Control and Prevention of Tuberculosis*. Dr. A. A. Morriton, Savannah, was elected First Vice-President of the Association.

Dr. W. M. Scott, Milledgeville, has just opened a new thirty-five room private hospital. He is Past Commander for Georgia of the American Legion.

Dr. C. C. Aven, Atlanta, was elected President of the Atlanta Tuberculosis Association at its annual meeting held on February 21st. The following physicians compose the medical staff: Doctors Arch Avery, C. C. Aven, E. A. Bancker, Jr., L. Minor Blackford, Allen H. Bunce, Ben H. Clifton, M. B. Copeloff, F. E. Christopher, T. F. Guffin, A. Worth Hobby, Champ Holmes, J. T. Hutchins, C. G. Kemper, J. W. Landham, J. C. Massee, F. C. Nesbit, L. G. Parham,

L. M. Petrie, M. C. Pruitt, Dan Y. Sage, Cosby Swanson, and T. I. Willingham.

The members of the Woman's Auxiliary and the Habersham County Medical Society were entertained by Dr. and Mrs. R. B. Lamb, Demorest, on February 14th.

The medical staff of the Atlanta Tuberculosis Association met on February 28th. Cases were reported as follows: *Tuberculous Kidney*, Dr. A. M. Dimmock; *Bronchiectasis*, Dr. C. G. Kemper.

The staff meeting of St. Joseph's Infirmary, Atlanta, was held on February 26th.

The Randolph County Medical Society met at the Patterson Hospital, Cuthbert, March 7th. Dr. E. C. McCurdy, Shellman, read a paper entitled, *The Doctor Himself*.

The Fulton County Medical Society met at the Academy of Medicine, Atlanta, March 7th. Dr. C. C. Aven reported a case, *Postoperative Lung Abscess Treated with Pneumothorax*; Dr. T. S. Burgess made a clinical talk on, *Local Treatment of Vasomotor-Rhinitis*; Dr. Lee Bivings read a paper, *The Feet in Infancy and Childhood*, (a) *New Method of Foot and Heel Printing*, (b) *Classification of Weak Feet*, (c) *Follow-up of 1500 Patients for Three Years—Lantern Slide Demonstration*. The discussion was led by Dr. J. H. Kite, Dr. Randolph Smith and Dr. Thos. P. Goodwyn.

The Georgia Medical Society, Savannah, met on March 12th. Dr. L. W. Williams read a paper entitled, *Atypical Abdominal Symptomatology*; discussed by Dr. E. J. Whelan and Dr. J. H. Pinholster. Dr. C. Y. Bailey, case report, *Ulcerative Endocarditis*.

The Burke-Jenkins-Screven Counties Medical Societies held a joint meeting with the dentists of the three counties at Waynesboro, on March 7th. C. Garner, D.D.S., Waynesboro, read a paper on *Focal Infection*; Dr. R. L. Miller, Waynesboro, reported a case, *Cancer of the Mouth Following Neglected Suppurative Condition of the Teeth*; Dr. C. Thompson, Millen, reported two cases, *Vincent's Ulcer of the Tonsil and Malnutrition and Underdevelopment in a Young Woman Caused by Insufficient Teeth*; Dr. J. M. Byne, Waynesboro, reported a case of *Congenital Syphilis*; Dr. W. B. Hirleman discussed *Filaria in Dogs*. A joint meeting will be held with the druggists of the counties in April.

BOOKS RECEIVED

Hughes' Practice of Medicine. Revised and edited by Burgess Gordon, M.D., Associate Professor of Medicine, Jefferson Medical College; Director, Department for Diseases of the Chest, Jefferson Hos-

pital; Assistant Physician, Pennsylvania Hospital; Visiting Physician, The White Haven Sanatorium. With Sections on Nervous and Mental Diseases by Harold D. Palmer, M.D., Neurologist Out-Patient Department, Pennsylvania Hospital; Psychiatrist, Institute of the Pennsylvania Hospital; Associate in Psychiatry, Medical School, University of Pennsylvania. Diseases of the Skin by Vaughn C. Garner, M.D., Assistant Professor of Dermatology and Syphilology, University of Pennsylvania. Fifteenth Edition with sixty-one illustrations. Contains 808 pages. Publishers: P. Blakiston's Son & Co., 1012 Walnut Street, Philadelphia, Pa. Price \$5.00.

Dietetics for Clinician. By Milton Arlenden Bridges, M.D., Director of Medicine, Department of Correction Hospitals, New York; Consulting Physician, Seaview Hospital, Staten Island, New York; Associate in Medicine and Lecturer in Therapeutics, New York Post-Graduate Medical School, Columbia University; Assistant Attending Physician and Chief of Diagnostic Clinic, Post-Graduate Hospital, New York; Fellow of the New York Academy of Medicine. Foreword by Herman O. Mosenthal, M.D., Director of Medicine at the New York Post-Graduate Medical School, Columbia University, New York. Second Edition, thoroughly revised. Contains 970 pages. Publishers: Lea & Febiger, Washington Square, Philadelphia, Pa. Price \$10.00.

Martini's Principles and Practice of Physical Diagnosis. Edited by Robert F. Loeb, M.D., Associate Professor of Medicine, College of Physicians and Surgeons, Columbia University, and Presbyterian Hospital, New York City, from the authorized translation by George J. Farber, M.D. Contains 313 pages with 30 illustrations. Publishers: J. B. Lippincott Company, East Washington Square, Philadelphia, Pa.

The Nervous Patient—A Frontier of Internal Medicine. By Charles Phillips Emerson, M.D., Research Professor of Medicine, Indiana University, Indianapolis, Indiana. Contains 453 pages. Publishers: J. B. Lippincott Company, East Washington Square, Philadelphia, Pa.

OBITUARY

DR. ERNEST LACY SMITH, Eastman; member; University of Georgia Medical Department, Augusta, 1899; aged 70; died at a hospital in Milledgeville on January 28, 1935. He was born and reared in Washington county and began the practice of medicine there; then removed to Early county; thence to Dodge county where he practiced for twenty-eight years. While kind and considerate of the poor, for whom he did a lot of charity practice, he accumulated some wealth and was never negligent of his duties or obligations to others. Dr. Smith was a member of the Ocmulgee Medical Society and the Eastman Baptist church. Surviving him are his widow, one son, Ernest L. Smith, Atlanta; two daughters, Mrs. Jas. R. Ham-

ilton, Gadsden, Ala., and Miss Madeline Smith, Eastman. Funeral services were conducted from the Eastman Baptist church by Rev. J. F. Hartsfield, Rev. F. M. Gaines, and Rev. W. J. Hazlewood. Interment was in Woodlawn cemetery.

DR. JOSEPH L. MURDOCK, Emerson; member; Southern Medical College, Atlanta, 1893; aged 73; died of pneumonia at his home on January 29, 1935. He was born and reared in Floyd county where he attended the common schools. After he graduated in medicine he returned to Floyd county where he practiced for many years; then removed to Emerson, where he practiced until his recent illness. Dr. Murdock was recognized as an excellent physician and known as an upright Christian gentleman. He was a member of the Bartow County Medical Society and the Emerson Baptist church. Surviving him are his widow, three sons, Nash Murdock, Emerson; J. H. Murdock, Detroit; and C. L. Murdock, Atlanta. Rev. Guy N. Atkinson conducted the funeral services from the Emerson Baptist church. Burial was in the village cemetery.

DR. WILLIAM L. BOWERS, Camilla; member; Chattanooga Medical College, Chattanooga, Tenn., 1899; aged 69; died at his home after an extended illness on February 8, 1935. He was born and reared at Blairsville, Union county, and moved to Decatur county about thirty years ago. Dr. Bower's life was devoted to the service of his friends and home. He was a man of an attractive personality and high ideals. Surviving him are his widow, three sons, Lawrence, J. L. and J. P. Bowers; five daughters, Misses Alwayne, Geraldine, Verna, Lena and Betty Bowers. Dr. N. G. Christopher conducted the funeral services from Mt. Pleasant Baptist church.

DR. TRUITT H. NELSON, Alamo; University of the South Medical Department, Sewanee, Tenn., 1906; aged 52; died at his home on February 3, 1935. He practiced medicine in Wheeler and adjoining counties for twenty-eight years. Dr. Nelson was held in high esteem by many acquaintances. Surviving him are his widow; two sisters and five brothers. Funeral services were conducted by Rev. M. W. Flanders from the Alamo Methodist church. Burial was in the city cemetery of Cordele.

DR. MOSES GATLIN CAMPBELL, Atlanta; member; Emory University School of Medicine, Emory University, 1894; aged 74; died at his residence of heart disease on February 15, 1935. He was born and reared at Tuskegee, Alabama. After graduating in medicine, he took post-graduate work in New York City, Chicago and London. Dr. Campbell helped to organize the Georgia Baptist Hospital and was a member of the hospital staff until his death. He was charitable and gave freely of his time and work in charitable institutions. For many years he was active in the Atlanta Baptist Association and in

the Georgia Baptist conventions. Dr. Campbell was a member of the Fulton County Medical Society, American Medical Association and the Druid Hills Baptist church, where he served as a deacon for many years. Surviving him are his widow and one sister, Mrs. D. G. Hill, Abilene, Texas. Funeral services were conducted from the Awtry and Lowndes chapel by Dr. Louie D. Newton. Members of the Fulton County Medical Society, staff of Georgia Baptist Hospital and the Druid Hills Baptist church formed honorary escorts. Interment was in the city cemetery of Charleston, S. C.

DR. JOHN MITCHELL ROGERS, Barnesville; member; Atlanta College of Physicians and Surgeons, Atlanta, 1900; aged 60; died at his home of pneumonia on February 28, 1935. He was born and reared in Brooks county. Dr. Rogers began the practice of medicine in Jennings Florida, then practiced for a while in Macon and moved to Barnesville where he practiced for about thirty years. He was a former president of the Lamar County Medical Society and for many years before his death was one of the state's most active society secretaries. Dr. Rogers was closely identified with all civic work, charitable and loved by hundreds of acquaintances. He was a member of the Lamar County Medical Society, Masons, and Baptist church. Surviving him are his widow and two sons, Dr. William Rogers, Professor of Anatomy at Columbia University College of Physicians and Surgeons, New York City, and Chas. Rogers, Fort Valley. Funeral services were conducted by Rev. Arthur Jackson from the residence. Burial was in Greenwood cemetery.

DIFFERENTIAL DIAGNOSIS OF LEUKEMIC STATES, WITH PARTICULAR REFERENCE TO IMMATURE CELL TYPES

In studying the cases of monocytic leukemia in the Hematological Registry, Roy R. Kracke and Hortense Garver, Emory University, Ga. (*Journal A. M. A.*, March 2, 1935), noted that the large percentage of well studied cases eventually terminate as definite myeloid leukemia. This would indicate that under leukemic conditions the monocytic cell is identical with the myeloblast. The criterion of a leukemia is not the number of white cells but the type of white cell present. In chronic lymphatic leukemia the hematologic picture shows a leukocyte count, usually of several hundred thousand, with small lymphocytes predominating, even 99 per cent. Smudge forms are constant. The platelets are almost always decreased. The red cell count and hemoglobin are not decreased in the first stages, but, as the disease progresses, moderate or severe anemias occur. The blood shows no oxydase or peptic ferments and a negative indophenol blue synthesis. The acute form of leukemia is a disease of the young, occurring most frequently in persons less than 25 years of age. Clinically, there is a sudden onset and a rapidly fatal course. Acute myeloblastic and lymphatic leukemias are identical clinically and

symptomatically. Acute myeloblastic leukemia usually presents a subleukemic leukocyte count, a marked anemia presenting a microscopic picture of pernicious anemia with hyperchromic cells, polychromatophilia, normoblasts, megaloblasts and marked variation in size and shape, a marked reduction in the number of platelets and a preponderance of myeloblasts, which on superficial examination appear to belong to the lymphocytic series. In some instances the microscopic picture may consist entirely of myeloblasts, micro-myeloblasts and mature segmented neutrophils without any of the other intermediate forms found in the normal maturation cycle. The clinical changes and blood picture of acute lymphatic leukemia are identical with myeloblastic leukemia with the exception of the predominant cell type involved. The large lymphocyte and lymphoblast predominate. The diagnosis is easy if in myelosis the characteristic premyelocytes and myelocytes are present in sufficient numbers to give a peroxidase positive reaction. These myelocytes are typically mature with no accompanying premyelocytes, as seen in myeloblastic leukemia. It is difficult to separate the acute leukoses on a clinical basis. An extensive glandular enlargement, however, favors the diagnosis of lymphadenosis, but its absence does not exclude myelosis. One of the diagnostic difficulties relative to acute lymphatic leukemia is its confusion with acute benign lymphadenosis or infectious mononucleosis. There are, however, some striking differences in the two conditions. Infectious mononucleosis is milder in its clinical manifestations, running a benign and harmless course. Red cell and platelet changes are never sequels of this disease. As a general rule, the leukocyte count is lower than in acute lymphatic leukemia. It is safer to be cautious and follow the rule that a diagnosis of acute lymphatic leukemia is dangerous on morphologic grounds alone and in the absence of red cell and platelet reductions. Monocytic leukemia differs little clinically from the other acute leukemias other than in age limits, which range from 1 to 78 years and average around 40 years. It occurs in males about twice as frequently as in females. The onset is generally insidious, with fever, malaise and marked pallor. The diagnosis rests entirely on the morphologic examination of the stained blood cells. The cell type is the fully developed, mature monocyte and in some cases the histiocyte. In all types of leukemia, especially the acute forms, the process may undergo at one time or another an aleukemic phase in which the leukocytes drop below the normal level. This phase cannot be distinguished clinically, organically or histologically from the more typical leukemic conditions. The term "aleukemia" is misleading. The condition probably should be considered a leukopenic phase of the existing leukemic process. If the condition is myeloid in nature, a correct diagnosis is more easily made. As a rule, patients suffering from this condition show an enlarged spleen, a myeloid hyperplasia of lymph nodes and other organs and a hyperplastic bone marrow in addition to leukopenia, pro-

gressive anemia and thrombopenia. The predominant cell type is the myeloblast when this phase occurs in acute myelosis and the myelocyte when the patient is suffering from the chronic form. Aleukemic leukemia and pernicious anemia are similar only in the type and degree of anemia, since both show a hyperchromic erythrocyte picture. Except in the terminal stages of pernicious anemia, the leukocyte count is normal or only slightly depressed, the differential count is essentially normal and the platelets are little affected. The color of the skin and sclera, gastric changes and response to liver therapy will soon rule out or confirm the diagnosis of pernicious anemia.

COMMUNICATIONS

PHYSICAL EXAMINATIONS—G. E. R. A.

Miss Rebecca Higginson,

Valdosta, Georgia,

My dear Miss Higginson:

The following is a copy of a resolution passed at a call meeting of the Lowndes County Medical Society last evening:

Whereas, the request of the G. E. R. A. for the complete examination of all persons on relief at the sum of 50 cents is considered impossible of performance at this price and whereas, the request for filling out the short form G. E. R. A. No. 64 is considered to be a lowering of the standards of the medical profession, and whereas, such examination would be of no value to the government or to the relief worker and is considered a waste of time by the medical profession and money by the government; therefore, now be it resolved by the Lowndes County Medical Society in a call meeting assembled this 22nd day of February, 1935, that this Society refuses to make the long examination for less than \$3.00 and refuse to make the short form for 50 cents. Be it further resolved that a copy of this resolution be transmitted to the District Administrator and to the Headquarters of the Medical Association of Georgia..

B. G. OWENS, M.D. *Chairman.*

A. F. SAUNDERS, M.D.

E. F. THOMPSON, M.D.

Resolution Committee.

T. CONRAD WILLIAMS, M.D.,

Secretary, Lowndes County Medical Society.

Valdosta, Georgia,

February 23, 1935.

IT'S QUICK ACTION PREVENTS DEFORMITIES

No antiricketic substance will straighten bones that have become misshapen as the result of rickets. But Mead's Viosterol (plain or in Halibut Liver Oil) can be depended upon to prevent ricketic deformities. This is not true of all antiricketic agents, many of which are so limited by tolerance or bulk that they cannot be given in quantities sufficient to arrest the ricketic process promptly, with the result that the bones are not adequately calcified to bear weight or muscle-pull and hence become deformed.

COCOMALT

A milk-drink that is especially valuable in the dietary of the malnourished, is Cocomalt. It is particularly fine for children, because it converts milk into a delicious, chocolate-flavor drink which youngsters look upon as a "treat." They drink far more milk when it is mixed with Cocomalt than they would in any other way.

Not only does Cocomalt make milk more palatable, it substantially increases its caloric value. Prepared according to the simple directions on the label, it adds 70 per cent more caloric value to milk—so that every cup or glass of Cocomalt is equivalent in food-energy value to almost two glasses of milk alone. It is not at all uncommon for a malnourished, underweight child to gain a pound a week, and more, when Cocomalt is added to the diet.

MERTHIOLATE

Antiseptics which are effective germicidally are frequently protoplasmic poisons and protein precipitants. Surface and deep cells of the skin may be destroyed by these agents in efforts to produce antiseptis. The reverse of the desired effect may result and the barrier to invasion of bacteria and absorption of toxins be broken down. When general debility, metabolic disease, or an exciting trauma is a contributing cause to infection already present, it is obvious that no further insult should be offered the damaged skin and subcutaneous tissues by destructive chemicals.

The antiseptic of choice for skin conditions will not interfere with the natural defense mechanism of the body by deleterious action on the epidermis.

Merthiolate, Lilly, is an organic mercury compound. It is germicidal to organisms which commonly invade the skin. It is particularly effective against those cocci and gram-negative bacilli shown by Hill and White to be least affected by the antibacterial action of the epidermis. It is compatible with tissue cells in remarkable degree, and its free solubility in body fluids facilitates penetration of protein material such as blood and exudate.

Merthiolate, Lilly, has been reported to be of value in the treatment of fungus infections, particularly dermatophytoses. It is valuable in combating the streptococcus and staphylococcus invaders of the skin, whether the condition is a pustular dermatosis, furuncle, or gangrene. In the presence of systemic disease, the local use of Merthiolate is a valuable supplement to treatment of the underlying condition. It offers promise for local treatment in dermatoses of physical or chemical origin, as well as infection of the skin by animal parasites.

Merthiolate Solution (Stainless), a stable, isotonic, aqueous dilution of Merthiolate 1:1,000, is moderately alkaline in reaction, and reported suitable for wet dressings and irrigation, as well as for topical application.

Merthiolate Tincture, an alcohol-acetone-aqueous solution of Merthiolate 1:1,000, contains a harmless coloring material. It is said to be an efficient skin

disinfectant in surgery, dermatology, and first-aid antiseptis.

NARCOTIC DRUGS—LICENSING CONTROL
FOR PHYSICIANS

To the Editor:

The medical profession has recently been threatened through the public press with a *federal* licensing system to control the professional use by physicians of opium and coca leaves and of compounds and derivatives of them, commonly referred to in this connection as "narcotic drugs."

Now a physician authorized by a State to practice medicine can register under the Harrison Narcotic Act as a matter of right and professionally use narcotic drugs, and the Federal Government cannot suspend or revoke his registration so long as his state license to practice medicine continues in force.

Under the threatened federal licensing system, a federal officer or board would determine who may and who may not register under the Harrison Narcotic Act or under supplementary legislation, and without such registration no one, even a physician lawfully engaged in the practice of medicine, could administer, dispense, or prescribe any drug covered by the federal licensing system.

To any claim that the Federal Government has no right thus to trespass on the prerogatives of the states with respect to the regulation of the practice of medicine, it must be pointed out that the Federal Government, in the control of interstate and foreign commerce, in taxing power, and in treaty-making, is supreme. Its authority over interstate and foreign commerce under time-honored precedents could hardly be construed to authorize it to regulate the drugs and other agencies that physicians can use in their practice of medicine within any state, but under recent federal claims of authority, anything and everything affecting the course of interstate and foreign commerce lies within federal jurisdiction; and if that claim is established there appears to be no limit of federal authority over the professional use of narcotic drugs. The Federal Government is already using its taxing power as a cloak for clearly regulatory police purposes, under the Harrison Narcotic Act. Under its treaty-making power, the Federal Government, with the approval of the United States Supreme Court, has gone a long way toward limiting the rights of the states with respect to the control of migratory game birds.

If an attempt should be made to set up a federal licensing system to control the use of narcotic drugs by physicians, it would probably be under a federal claim of authority to make regulations to carry into effect some of the various international conventions to which the United States is a party, under the provisions of Article VI, Clause 2, of the Constitution, which provides:

"This Constitution, and the laws of the United States which shall be made in pursuance thereof; and all treaties made, or which shall be made, under the authority of the United States,

shall be the supreme law of the land; and the judges in every State shall be bound thereby, any thing in the Constitution or laws of any State to the contrary notwithstanding."

Whether a federal licensnig system to regulate the practice of medicine to the extent of controlling the use of narcotic drugs could be lawfully established under these provisions of the Constitution, in view of other provisions contained in it, it would be useless here to discuss.

The present recrudescence of the idea of a federal licensing system for the control of narcotic drugs is the result—in part, at least—of inaction by some state medical examining and licensing boards. Even when evidence has been submitted to them showing that physicians practicing under authority of licenses that they have issued are narcotic addicts, or have been convicted of violating the Harrison Narcotic Act, or both, some such boards have neither suspended nor revoked the licenses of the offending physicians. In some cases, failure to act has been due to the absence of any lawful authority for action, but that has not always been the case. In states in which there is no lawful authority for the suspension or revocation of licenses under the conditions stated, the medical examining and licensing boards have too often apparently made no effort to produce legislation to permit such action. Such conditions as these tend to promote the establishment of a federal licensing system.

It will certainly not be to the best interest of either the medical profession or the public to have the Federal Government, by withholding or cancelling registration under the Harrison Narcotic Act or under any similar statute, create a class of physicians who are actively and lawfully engaged in the practice of medicine under state authority, but who are forbidden by the Federal Government to use in connection with their practice such essential narcotic drugs as opium and coca leaves and compounds and derivatives of them. I am therefore submitting this matter to you for such action as you deem proper.

It might be well for you to learn from the medical examining and licensing board of your State what the situation is there, and particularly what action, if any, it has taken with respect to evidence that has been submitted to it, if any, by the Bureau of Narcotics, Treasury Department, to prove cases of addiction or to prove convictions under the Harrison Narcotic Law among licentiates of the board. With such knowledge you will then be in a position to take such action as may be necessary to forestall demands for the establishment of a federal licensing system.

I shall appreciate it very much if you will let me know what action you take.

WM. C. WOODWARD M.D., *Director,*
Bureau of Legal Medicine and Legislation,
American Medical Association.

Chicago, Ill.,

December 19, 1935.

In Health News, published weekly by the New York State Department of Health, Albany, N. Y., Vol. 11, No. 51, Dec. 17, 1934, the following is quoted: "*Mortality from Diseases of Childhood.* For the second time in fifty years no deaths from measles were recorded anywhere in the state. Mortality from scarlet fever (0.2 per 100,000 population) and epidemic cerebrospinal meningitis (0.2) has never been lower in October, and the rates from whooping cough (1.8), diphtheria (0.9), and poliomyelitis (0.4), only one. The death rate from diarrhea and enteritis, under two years (9.3), however, was higher than that for October of the past two years and, for the first time, showed an increase over the September rate."

The Legislative Committee of the Illinois State Medical Society writes in part as follows: "The past few years have brought to pass more experimental legislation than any previous period of like duration in the history of the country. Opinion is general that a substantial proportion of the new enactments has proved unsatisfactory and ill-advised. Much modification of nearly all of this new legislation, involving no little waste, is a matter of record. You are aware of the general unrest that prevails, especially concerning medical matters. Notice has been served that health insurance and other socializing schemes relating to medical practice will be offered for enactment into law. Pressure in favor of these schemes will undoubtedly be greater than usual on members of legislative bodies."

MEDICAL TREATMENT OF CHRONIC ARTHRITIS

Russell L. Cecil, New York (*Journal A. M. A.*, Nov. 24, 1934), summarizes his point of view on the treatment of chronic arthritis. Many physicians believe that rheumatoid arthritis is a chronic infection; his belief is that it is a chronic streptococcic infection. But just what the underlying factors are that lead to its development, and just what factors determine recovery or progressive decline into the ankylosed state, no one pretends to know. The treatment of chronic arthritis differs materially for the different types of the disease. Hypertrophic arthritis, being a degenerative process, is best relieved by the elimination of all trauma to the affected joints and by the application of such measures as will stimulate the local circulation. Rheumatoid arthritis appears to be a chronic infection and should be treated as such. Unfortunately there is no standard therapy for rheumatoid arthritis at the present time, but there are certain measures such as rest, elimination of focal infections, physical therapy and regulation of diet, that have wide acceptance. Climatic therapy and vaccine therapy are also well thought of in many clinics. The author sums up his method of treating rheumatoid arthritis in one word, "rehabilitation." This begins with rest and elimination of all foci of infection.

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THE SEASPONGE AS A POSTOPERATIVE DRESSING FOLLOWING RADICAL MASTECTOMY

THOMAS HARROLD, M.D.

Macon

The satisfactory function of the arm following the radical Halsted type of breast amputation has long been a problem for surgeons. The great number of ingenious incisions that have been devised to prevent the frequent binding scar in the axilla is ample proof of the interest surgeons have had in attempting to solve this vexing problem. Dr. Halsted gave much thought to it and probably arrived at the ideal solution. He excised a very large amount of skin and made no attempt at primary closure and used some type of skin graft to fill in the remaining defect. When this is done the skin is never put under undue tension and there is almost always an ample quantity to suture to the chest wall high in the axilla and over the axillary vessels. Under these conditions sloughs of the skin edges rarely occur and the small resulting scar is so high in the new axilla that the motion of the arm is not appreciably interfered with.

At the present time very few surgeons adhere to this feature of the original Halsted technic and almost all of them attempt primary closure even though some tension is generally necessary to effect this closure. In a certain percentage of cases this tension results in some sloughing of the skin edges and therefore a greater or less degree of secondary infection. We all know that even mild infections produce larger scars than clean wounds and Halsted presented a very strong argument to show that the unfortunate lymphedema of the arm, seen all too fre-

quently following radical mastectomy, is caused by even a mild postoperative wound infection. Also when primary closure is attempted, the skin is frequently drawn across the axilla like a tent, leaving a very definite dead space under it. This is a bad situation for at least two reasons:—First the skin, which has a poor blood supply at best, makes very little if any contact with underlying tissues and therefore has little opportunity to gain nourishment from the granulations which form and therefore the chances of a slough are increased. Second, if sloughing does not occur, the dead space can close only by the formation of a large blood clot which then becomes organized and results in a heavy, dense scar which may be very disabling.

Surgeons sometimes try to avoid these eventualities by stitching the skin to the chest wall high in the axilla and by making pressure in the axilla with gauze dressings. Both of these procedures are great helps and no doubt serve the purpose in many cases. But at best the apposition of the skin is imperfect.

In 1925 Drs. John Staige Davis and Herbert F. Traut reported the satisfactory use of wet seasponges for dressing skin grafts, especially when the contour of the part to be grafted was irregular. The graft is properly placed and covered with a single layer of gauze, then the wet sponge is bound over the graft under moderate pressure. While wet, the sponge molds itself accurately and with even pressure over the surface to which it is applied. When it dries it is quite firm and maintains the graft in excellent apposition and avoids any possibility of dead space which would prevent the success of the graft. They have used this method in plastic work in the axilla after contractures.

It occurred to me that this same principle might be applied in dressing cases after radical mastectomy. The sponge will mould into all the irregularities of the axilla and obliterate all dead space. It will also maintain close apposition between the skin and the underlying structures and give that skin at least the chance of a whole thickness graft, thereby decreasing the chance of a slough. The sponge will absorb any moderate amount of serum or oozing and, if the wound is as dry as it should be when it is closed, it should not be necessary to disturb the dressing for several days. Of course fresh sponges can be used at subsequent dressings if necessary. For this purpose the sponge should be five or six inches in diameter and should be held firmly in place by strips of adhesive passing over the clavicle and also around the chest wall.

A trial of this method in a few cases has proved highly gratifying. The new axilla thus formed is high, smoothly molded and much better from a functional standpoint than the average result obtained by the older methods. The dressing is simple and requires no special skill in its application. Fewer sloughs in the skin margins should result, none so far in our experience.

Because of the structure of seasponges, we have felt that some extra precaution in the matter of sterilization was necessary. Therefore after boiling we let the sponge soak in a bichloride solution until needed, following the suggestion of Dr. Davis. Then it is squeezed out in salt solution and is ready for use.

Conclusions

1. The use of the seasponge as a post-operative dressing following radical mastectomy results in improved function of the axilla.

2. Theoretically, this dressing should produce, indirectly, a decreased incidence of swollen arms following operation except when the swelling is caused by recurrence of the carcinoma.

REFERENCES

1. W. S. Halsted, J. A. M. A. 1913, LX 416. Also "Collected Papers."
2. W. S. Halsted, J. H. H. Bull. 1921 XXXII 309. Also "Collected Papers."
3. J. S. Davis and H. F. Traut. Arch. Surg. 1925 XI 946.

THE NON-SURGICAL METHOD OF TREATING HEMORRHOIDS*

A. M. PHILLIPS, M.D.

Macon

The methods of treating hemorrhoids may be classified under two heads—surgical and non-surgical. It is with the latter method that I wish to deal.

Hemorrhoids are classified into three types; external, internal and mixed hemorrhoids. The external hemorrhoids are the thrombotic piles, skin tabs or tags and varicosities found below the mucocutaneous junction of the anal canal. These external piles are covered with skin. They originate from branches of the inferior hemorrhoidal vein.

Internal hemorrhoids arise from branches of the superior hemorrhoidal vein. These are the venous and the capillary or strawberry hemorrhoids and are found above the mucocutaneous junction of the anus and are covered by mucous membrane.

Mixed hemorrhoids are what the name implies, a combination of internal and external hemorrhoids, partially covered by skin and partially covered by mucous membrane.

The nerve supply of the anus and rectum is derived from two sources. The rectum and anal canal above the mucocutaneous junction is supplied by the sympathetic system. Below the mucocutaneous junction, the area is supplied by fibers from the spinal nerves. This innervation of the rectum and anus accounts for the absence of pain, even with major lesions, within the rectum, and the excruciating pain associated with even a very small, almost undetected, lesion located at the anal outlet. After understanding the nerve supply to the rectum and anus, it is easy to see how treatment can be carried on within the rectum without pain and without an anesthetic.

It is the internal type of hemorrhoids that we wish to treat by the non-surgical method, usually referred to as the injection treatment. External hemorrhoids cannot be treated by this method.

*Read before the Macon Medical Society of Bibb County, Macon, January 15, 1935.

The injection treatment of hemorrhoids, according to history, made its first appearance about the year 1871. A young physician by the name of Mitchell of Clinton, Illinois, is said to have been the first to use this method. As an injecting agent, Mitchell is said to have used a solution of 33 1-3 per cent phenol. The name of Mitchell and his method of treating hemorrhoids spread far and near and it brought to his door more patients than he could treat. He then conceived the idea of selling the formula to anyone, under a pledge of secrecy, who would pay the price and also a percentage of their profits. The country was then deluged with itinerant charlatans who, for the most part, were crude, unscientific and unscrupulous. In spite of these methods, however, good results were obtained and many remarkable cures were reported.

Very soon the medical profession, hearing these reports, made inquiry and in 1876 Andrews made a report to the profession on 3,300 cases which he had collected, who had been treated by this method. Of this total number of cases treated, there were records of thirteen deaths. Regarding this report, Tuttle says, "any surgical operation in such inexperienced and unscientific hands would have produced a larger mortality and a larger list of accidents." There were only two strictures reported in the total number of cases reported and again quoting Tuttle, "Can any practicing physician cite as many cases, treated by any other method, with only two strictures?"

As stated before, the injection agent was a strong solution of phenol and the results obtained were due to the caustic action of the phenol causing the hemorrhoid to slough off. When compared with the modern solution and reaction obtained, this method must be criticized and condemned.

After this report by Andrews, however, the medical profession opened its eyes and many reputable physicians began using this method, Kelsey of New York, being one of the first. All who used this method found many advantages, yet there were many faults and very little progress was made until the early part of the twentieth century. It was

J. D. Albright of Philadelphia, who advocated the injection of hemorrhoids more than anyone else from 1900 to 1910. Albright probably did more than anyone else to bring about a safe, painless method of treating hemorrhoids. He tried every formula that could be acquired from any source. After about fifteen years of experimenting, a formula of 5 per cent phenol in vegetable oil was arrived at, and this is the most popular formula used today. In 1914 Terrill of Richmond, Virginia, used a 10 per cent solution of quinine and urea and obtained good results. This was reported by him to the profession and he was laughed at. These same physicians who laughed at him later began using this treatment and recommended it highly. A short time later Terrill changed from a 10 per cent to a 5 per cent quinine and urea solution. Both phenol and quinine and urea have been used very widely throughout this country but 5 per cent phenol is the most popular and is used more widely. The English also advocate the injection treatment of hemorrhoids and are partial to phenol. Morley has long advocated this type of treatment.

The action of a 5 per cent solution of phenol in the treatment of hemorrhoids is simple. The solution, when injected into the hemorrhoidal space, creates a mild inflammatory reaction which in turn causes adhesions to be formed. These adhesions cause the mucosa and submucosa to become firmly attached and the hemorrhoidal space is obliterated. When the hemorrhoidal sac or space is obliterated, then the veins that are found within this space are also obliterated. There is no ulceration or sloughing. Only a mild inflammatory reaction which results in adhesions between the mucosa and the underlying structures.

Some advocates of the injection treatment only treat the internal hemorrhoids of the first degree, that is, only those that do not protude. Personally I feel that an internal hemorrhoid of any degree, whether it protrudes or not, can be treated by this method. This does not include the ones that have become fibrosed, however.

The preparation of the solution is very

important. A 50 per cent solution of phenol in vegetable oil is first prepared. One pound of the pure uncolored phenol crystals are heated in a water bath until they are liquefied and then added to 1 pint of vegetable oil, either U.S.P. cotton seed oil, Wesson Oil, pure olive oil or almond oil. From the 50 per cent stock solution the 5 per cent solution is prepared as needed by adding 1 ounce of 50 per cent to 9 ounces of vegetable oil. The solution is then ready for use.

The syringe used is an ordinary 10 c.c. Luer type syringe. The needle should be about a 20 gauge and about $3\frac{1}{2}$ to 4 inches long. A smaller caliber will not permit the oil to flow through freely without a good bit of pressure. A long needle is necessary in order for the syringe to be away from the mouth of the speculum and not obstruct the vision of the operator. A guard should be placed on the shaft of the needle in order to act as a gauge to prevent the needle from being inserted too deeply into the rectal wall.

The patient is instructed not to have any preoperative preparation. No cleansing enema is required and I prefer that no preparation whatsoever for a treatment be made. The patient is placed on the table in the left lateral position with the legs flexed at a right angle or more. A speculum of the suitable type is well lubricated and inserted. The most convenient types are the Brinkerhoff, the Goldbacker or the Schuford. The Goldbacker or the Brinkerhoff are better because each has a removable slide which is very convenient in exposing the hemorrhoid or the hemorrhoid bearing area. After inserting the speculum, the slide is withdrawn partially and the hemorrhoid drops into the window. A small utility instrument or probe will facilitate bringing the hemorrhoid to be treated into view. By touching the exposed hemorrhoid it is very easy to determine whether you are working above or below the mucocutaneous line, discomfort being elicited by probing tissue below this line. The patient must not be able to feel the point of a probe at the point selected as the site of injection.

The needle is then inserted at the selected spot through the mucous membrane. Care should be exercised in order not to insert

the needle too deeply as the solution must be injected just under the mucous membrane. Gentle pressure is then made on the plunger of the syringe and the solution forced into the mucous area. Immediately, there will be a bulging of the mucosa and this is the sign that the solution is being injected into the right place. If there is no bulging the needle is probably too deep and it must be withdrawn and re-inserted. Occasionally the needle will not be inserted deeply enough and a white or snow spot will appear at the site of injection. The solution is being injected into and not beneath the mucosa. The needle must be withdrawn and inserted again to the correct depth.

The amount of solution injected is determined by the appearance of the hemorrhoid. It will soon become distended and then becomes translucent, and arterioles can be seen traversing the surface of the bulging hemorrhoid. Some hemorrhoids will take as much as the entire 10 c.c. of solution. The mass then fills the entire upper anal canal. Seldom is this much solution injected into one hemorrhoid and never more than 10 c.c. More than one hemorrhoid can be treated at one sitting but it is not wise to use more than 10 c.c. of the phenol solution, no matter how many hemorrhoids are treated.

The injected solution does not enter the dilated veins, consequently the solution does not enter the blood stream. The solution enters the dilated space between the mucosa and the sub-mucosa. This space contains a number of dilated veins but it would be impossible to enter one of the small veins if you tried. There is no danger of the solution entering the blood stream.

It is always well to inject as high as possible into the upper part of the hemorrhoidal space, because there is always a certain amount of redundant mucosa above the hemorrhoid, and by injecting as high as possible, adhesions are formed high up and when retraction takes place the hemorrhoids are pulled up. This is illustrated very nicely in protruding hemorrhoids. Seldom do they protrude after the first treatment.

There is no pain or discomfort when the

mucous membrane is pierced by the needle, neither is there pain on the injection of the solution. When injecting an area down near the mucocutaneous junction the patient may experience a stinging sensation momentarily. This is not severe and lasts about five seconds. This is due to the stretching of the mucosa at the junction with the skin. This area is supplied with sensory fibres and these fibres are being impinged upon.

After the treatment, which consumes probably ten minutes, the patient gets off the table and is able to walk out of the office with no more discomfort than when he came in. The patient is advised to stay off his feet as much as possible for the next few hours because about 25 per cent of the patients complain of a slight aching about the anus and rectum in from three to six hours after the treatment. This discomfort is brought about by the congestion of the rectum which is caused by the mild inflammatory reaction that the phenol solution sets up. Only a small percentage of patients complain of this however, and this can be prevented by not injecting quite as much solution or by adding about 20 grains of menthol to each ounce of the original 50 per cent stock solution.

In considering the advantages and the disadvantages of this treatment I can only see the advantages. Let us first consider the permanency. I don't think any method could be said to relieve a patient of hemorrhoids permanently. In my estimation, the injection treatment is just as permanent as the operative removal. We can only correct the condition that is present and we cannot guarantee that new hemorrhoids will not develop later. I have injected several cases that have been operated upon previously by competent surgeons. I have every reason to believe that a new crop of hemorrhoids developed. Certainly they can be developed a second time as well as the first time. I think we will have a certain number of recurrences no matter which type of treatment is used.

Pain is certainly an important factor in treatment. Only the patient who has been operated upon for hemorrhoids knows the agony that is experienced with the first bowel

movement after the operation. Pain and discomfort are always experienced several days post operatively. There is no appreciable discomfort during or after the treatment by the injection method.

In times such as we are now passing through, the loss of time accounts for something. Not everyone can afford to stay in a hospital the required length of time and lose two to three weeks from work. The surgical removal of hemorrhoids means two or three weeks' loss of time. The injection treatment causes not one minute loss of time. Many of my patients have come to my office from work and after the treatment have gone back to their work.

Along with the loss of time, we must take into consideration the cost in actual money to the patient. The operative treatment calls for a hospital bill, operating room fee and surgeon's fee. The injection treatment calls for a fee for the treatment which is certainly less than the hospital and doctor's bill together, not to mention three weeks' loss of earning power.

Another point to take into consideration is that patients do not like to be put to sleep. Of course the surgeon can operate under local anesthesia but, as a rule, the patient is put to sleep. There is usually a nausea following the general anesthetic. The injection treatment requires no anesthetic at all.

I am reminded what an eminent proctologist once told me. In the past he had had occasion to have many physicians as patients of his. Most of the physicians had never looked with much favor upon the injection treatment. When they sought help, however, each one immediately wanted to know if his hemorrhoids could be treated by injection. When told by this proctologist that their case was one suitable for injection, not a one failed to want to give the injection treatment a trial in order to avoid an operation if possible. This only goes to show that doctors are as human as anyone else and would like to avoid operation about the anus if possible. I for one, would certainly give the injection treatment a trial first.

THE JOURNAL

OF THE
MEDICAL ASSOCIATION OF GEORGIA
Devoted to Welfare of Medical Association of Georgia

139 Forrest Avenue, N.E., Atlanta, Ga.

APRIL, 1935

WELCOME TO ATLANTA

For the Eighty-Sixth Annual Session of the Medical Association of Georgia.

In behalf of the Fulton County Medical Society, we have the pleasure of extending to you a most cordial invitation to Atlanta for the 1935 Annual Session of the Medical Association of Georgia, to be held at the Biltmore Hotel, May 7, 8, 9, 10, 1935.

It has been some years since you visited us, and so far as we are concerned, we will do everything possible to make the meeting enjoyable and successful. You will receive a warm welcome and every effort will be made for the accommodation, convenience and comfort of those who attend.

In the four years since the Association last met in this city, we have all observed many changes that have taken place in medical education, medical economics and in the practice of medicine, per se. It was only natural that our medical institutions and we, as physicians, should have been affected by this trend of the times. But we, as physicians, in spite of any forces which might tend to hinder us, have sought to carry forward in our research, our medical progress and to improve ourselves with the passing years so that we might fulfill our greatest mission, that of alleviating human suffering. It is for these reasons that we gather together and learn from each other.

In behalf of the medical profession of Atlanta we will be happy to have you here as our guests and visitors. Everything we have will be yours and the measure of welcome unlimited. We sincerely hope that your visit will be pleasant, profitable and educational.

E. D. SHANKS, M.D., *President.*

A. O. LINCH, M.D., *Vice-President.*

GRADY E. CLAY, M.D., *President-Elect.*

M. T. HARRISON, M.D., *Sec'y.-Treas.*

Fulton County Medical Society.

INVITATION

The members of the Fulton County Medical Society are looking forward to May 7, 8, 9, 10, 1935, when they will have the pleasure of being your hosts for the Eighty-Sixth Annual Session of the Medical Association of Georgia.

The various committees are at work and have planned a program of entertainment that will be one you cannot afford to miss. We hope for a record attendance.

You will not only find a warm welcome from the hearts of the medical profession but from our city at large. It will be a treat to see Atlanta in the spring of the year when the spring blossoms make it a veritable "Fairyländ."

Not only will our hotels afford you comfortable accommodations but our homes will be open to you.

A list of committees appointed to serve you appears in this issue of the Journal. We hope you will write the chairmen of these committees for any information you may desire.

In behalf of 400 physicians who are planning and anticipating with pleasure your attendance at the coming session, I WELCOME YOU.

JAS. J. CLARK, M.D., *Chairman.*

Committee on General Arrangements,

Fulton County Medical Society.

OFFICIAL CALL

TO THE OFFICERS, FELLOWS AND MEMBERS OF THE AMERICAN MEDICAL ASSOCIATION

The Eighty-Sixth Annual Session of the American Medical Association will be held in Atlantic City, New Jersey, from Monday, June the tenth, to Friday, June the fourteenth, Nineteen hundred and thirty-five.

The House of Delegates will convene on Monday, June the tenth.

The Scientific Assembly of the Association will open with the General Meeting held on Tuesday, June the eleventh at 8:30 P.M.

The various sections of the Scientific Assembly will meet Wednesday, June the twelfth, at 9 A.M. and at 2 P.M. and sub-

sequently according to their respective programs.

WALTER L. BIERRING, *President.*

FREDERICK C. WARNSHUIS,

Speaker, House of Delegates.

Attest:

OLIN WEST, *Secretary.*

Chicago, Illinois, March the twenty-fifth.

HOUSE OF DELEGATES

The House of Delegates will convene at 10:00 A.M. on Monday, June 10, 1935, in the Renaissance Room of the Ambassador Hotel, Boardwalk at Brighton Avenue.

REPRESENTATION

The appointment of delegates made at the Cleveland Session of 1934 entitles your State Association to three delegates for 1935-36-37.

"A member of the House of Delegates must have been a member of the American Medical Association and a Fellow of the Scientific Assembly for at least two years next preceding the session of the House of Delegates at which he is to serve.

"Delegates and alternates from constituent associations shall be elected for two years. Constituent associations entitled to more than one representative shall elect them so that one-half, as near as may be, shall be elected each year. Delegates and alternates elected by the sections, or delegates appointed from the United States Army, United States Navy and United States Public Health Service shall hold office for two years."—*Chap. I, Secs. 1 and 2, By-Laws.*

RULES FOR THE GUIDANCE OF THE COMMITTEE ON CREDENTIALS

Adopted by the House of Delegates at Atlantic City, N. J., June 6, 1912

1. Credentials shall be of two parts. The first part shall be sent to the office of the Secretary of the American Medical Association by the secretary of the constituent association, not later than seven days prior to the first day of the first meeting of the House of Delegates, and shall be a list of delegates and alternates for that association. The constituent associations shall designate an alternate for each delegate, who may take the pledge of the delegate when authorized to do so by said delegate in writing. In the absence of such authority, any alternate who has been duly chosen by the constituent association may be seated in place of any delegate who is unable to attend, provided he presents proper official authority from said association. A certificate signed by the president or secretary of the constituent association shall be deemed legal authority (*as amended June 7, 1921*).

2. Each delegate shall be furnished with a credential by the secretary of the association by which he is elected on a prescribed form furnished by the Secretary of the American Medical Association, which

shall give the date and term for which he was elected and who was elected to act as alternate for him in case of his inability.

3. A delegate, on presenting himself to the Committee on Credentials, may be seated even though he may not present part 2 of his credential, provided he is properly identified as the delegate who was elected by his association and whose name appears on the Secretary's record.

4. No alternate may be seated unless his credentials meet the same requirements as designated for the delegate and he can show written evidence that he is empowered by his delegate to act for him, except as provided for in Section 1 as amended (*as amended June 7, 1921*).

5. When a constituent state association reports that one of its elected delegates and his elected alternate are both unable to attend a specified annual session of the American Medical Association, the constituted authority of said constituent state association may fill the vacancies caused by the absence of both an elected delegate and his elected alternate, and such a substitute delegate or his substitute alternate who presents proper credentials signed by the president and secretary of said constituent state association shall be eligible to regular membership in the House of Delegates of the American Medical Association in such a specified session (*as adopted, May 12, 1932*).

SCIENTIFIC ASSEMBLY

The Opening General Meeting, which constitutes the opening exercises of the Scientific Assembly of the Association, will be held Tuesday evening, June 11, 1935, at 8:30. The Sections will meet on Wednesday, Thursday and Friday, June 12, 13 and 14.

Convening at 9:00 A.M. the Sections on

Obstetrics, Gynecology and Abdominal Surgery.

Laryngology, Otology and Rhinology.

Pediatrics.

Pathology and Physiology.

Orthopedic Surgery.

Urology.

Preventive and Industrial Medicine and Public Health.

Miscellaneous Topics.

Convening at 2:00 P.M. the Sections on

Practice of Medicine.

Surgery, General and Abdominal.

Ophthalmology.

Pharmacology and Therapeutics.

Nervous and Mental Diseases.

Dermatology and Syphilology.

Gastro-Enterology and Proctology.

Radiology.

REGISTRATION DEPARTMENT

The Registration Department will be open from 8:30 A.M. until 5:30 P.M. on Monday, Tuesday, Wednesday and Thursday, June 10, 11, 12 and 13, and from 8:30 A.M. to 12:00 noon on Friday, June 14, 1935.

STREPTOCOCCIC EMPYEMA TREATED WITH SEMI-WEEKLY IRRIGATIONS OF MERTHIOLATE*

Case Report

LUCIUS N. TODD, M.D.
JOHN L. TRACY, JR., M.D.
Waverly Hills Sanatorium,
Waverly Hills, Ky.

A white woman, aged 24, was admitted to the sanatorium July 3, 1934, with a history of having been taken ill Feb. 7, 1934, with chills and fever and a sharp pain in the left chest. These symptoms continued for several days and then the chills and pain disappeared but the fever persisted and had been present daily since the onset. Dyspnea appeared early and it also persisted. Her appetite became poor and she began to lose weight. She was treated at home with anodynes, etc., but no examination of the chest was made.

A few days before admission, feeling that she was steadily losing ground, she got out of bed and without the knowledge of her family went to the Waverly Hills Chest Clinic in Louisville for an examination. She was admitted to the sanatorium the same day. Her temperature on admission was 103.4°, pulse 120, respiration 25. She weighed 86 pounds, which was about 15 pounds under her normal.

Physical examination disclosed a young adult female obviously ill. She was lying on her left side and stated that although she had no pain, she could breathe more comfortably in this position. Inspection of the chest showed the two sides apparently equal in size but expansion was practically nil on the left. The apex impulse of the heart could not be seen or palpated. Percussion disclosed a flat note over the left chest from the sixth rib to the clavicle and tenth to third dorsal spines. Breath sounds were absent over the left and exaggerated over the right. No rales were elicited.

The diagnosis was pleurisy with effusion and, with a history of five months' duration, empyema was strongly suspected.

The Mantoux (intracutaneous) tuberculin test was negative both to .1 mg. and 1 mg. of old tuberculin. Urinalysis showed a trace of albumin. The red blood count was 3,310,000, white blood count 10,000 with 67 per cent a normal differential.

A routine admission x-ray was not taken since it was felt that more information could be gained after the fluid was withdrawn.

On the day following admission thoracentesis was done and 1750 c.c. of thick greenish pus was removed from the left pleural cavity and 500 c.c. of air introduced to offset withdrawal symptoms. That night her temperature dropped to 99.4 and she stated she

felt better than she had in months. Laboratory reports on a specimen of the pus were: smears for tubercle bacilli, negative, smears stained by Gram's method showed a moderate number of long chains of cocci identified as streptococci.

In view of the results being obtained in this institution with merthiolate in tuberculous empyema it was decided to try that preparation in this case. Accordingly on July 6, 1934, using 0.5 per cent procaine as a local anesthetic, the left pleural cavity was drained of the remaining pus—1350 c.c.—and then irrigated with 1:5000 solution of merthiolate. When the irrigating fluid returned clear, 100 c.c. of the merthiolate solution was left in the cavity. Fluoroscopic and x-ray examination showed the left lung about 80 per cent collapsed, heart slightly displaced to the right and the right lung apparently normal. We felt that it would be most desirable to have the left lung re-expanded but were not at all optimistic about this occurring in view of the fact that the lung had been collapsed several months and the visceral pleura was undoubtedly thickened and covered with a fibrinous exudate. With a view to aiding re-expansion the intra-pleural pressures were kept at a high negative and the patient was given blow bottles and instructed to use them more or less constantly during her waking hours. The excellent end result is due in no small part to her splendid cooperation.

The pleural cavity was emptied of pus and irrigated twice weekly, a residue of merthiolate being left in after each lavage. The amount of pus removed at each sitting slowly but surely decreased in amount and became thinner in consistency. Following the third lavage we were unable to demonstrate any organisms with the Gram's stain and could not see any growths on blood agar plates. The patient's temperature reached normal within a week and she began to gain weight and improve in every way.

Nov. 1, 1934, we were unable to obtain any pus and fluoroscopic examination failed to disclose the presence of any. The lung was apparently fully expanded. The patient was put on road exercise and kept under observation for one month. An x-ray taken Nov. 25, 1934, revealed the left lung fully re-expanded, parenchyma clear, but evidence of thickened pleura throughout. The heart was in normal position and the right lung clear. She had gained 12½ pounds and felt perfectly well. She was discharged Nov. 28, 1934.

Comment

We realize fully that the result of treatment in one case cannot be taken to mean that we have proven merthiolate to be the ideal agent for treating non-tuberculous empyema. However, merthiolate is harmless to the host in dilution of 1-5000.

REFERENCE

1. Woodson, T. A. and Mullen, A. B.: Studies in the use of Methiolate in the Treatment of Tuberculous Empyema.

*Read before the Southern Tuberculosis Conference, Knoxville, Tenn., October, 1934.

†Present address Sylvester, Ga.

PROGRAM
MEDICAL ASSOCIATION OF
GEORGIA

Eighty-Sixth Annual Session
Atlanta

BILTMORE HOTEL, HEADQUARTERS

May 7, 8, 9, 10, 1935

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H. C. Sauls, Atlanta, Chairman.
H. H. Askew, Atlanta.
F. M. Barfield, Atlanta.
Jas. N. Brawner, Atlanta.
F. P. Calhoun, Atlanta.
W. L. Champion, Atlanta.
H. C. Crawford, Atlanta.
Zach S. Cowan, Atlanta.
Hal M. Davison, Atlanta.
Mark S. Dougherty, Jr., Atlanta.
Lon W. Grove, Atlanta.
C. G. McCay, Atlanta.
Marion C. Pruitt, Atlanta.
Samuel Stamp, Atlanta.
C. B. Upshaw, Atlanta.

Publicity

C. W. Roberts, Atlanta, Chairman.
Marion T. Benson, Sr., Atlanta.
H. M. Bowcock, Atlanta.
J. L. Campbell, Atlanta.
G. W. Quillian, Atlanta.
Theodore Toepel, Atlanta.

Alumni Dinners

University of Georgia School of Medicine

Beecher DuVall, Atlanta, Chairman.
Needham B. Bateman, Jr., Atlanta.
M. Hines Roberts, Atlanta.

Emory University School of Medicine

J. J. Martin, Atlanta, Chairman.
J. D. Martin, Atlanta.
W. E. Person, Atlanta.

COUNCIL

Chairman	J. A. Redfearn, Albany
Clerk	Grady N. Coker, Canton
Secretary	Allen H. Bunce, Atlanta
First District (1936)	C. Thompson, Millen
Vice-Councilor	Jas. C. Metts, Savannah
Second District (1936)	J. A. Redfearn, Albany
Vice-Councilor	Chas H. Watt, Thomasville
Third District (1936)	J. C. Patterson, Cuthbert
Old Twelfth (1935)	J. C. Wall, Eastman
Vice-Councilor	J. C. Wall, Eastman
Fourth District (1936)	Kenneth S. Hunt, Griffin
Vice-Councilor	Enoch Callaway, LaGrange
Fifth District (1937)	W. A. Selman, Atlanta
Vice-Councilor	Marion C. Pruitt, Atlanta
Sixth District (1937)	H. G. Weaver, Macon
Vice-Councilor	H. D. Allen, Milledgeville
Seventh District (1935)	M. M. McCord, Rome
Vice-Councilor	H. L. Erwin, Dalton
Eighth District (1937)	J. E. Penland, Waycross
Vice-Councilor	W. W. Turner, Nashville
Ninth District (1935)	Grady N. Coker, Canton
Vice-Councilor	J. K. Burns, Gainesville
Tenth District (1935)	S. J. Lewis, Augusta
Vice-Councilor	H. M. Fullilove, Athens

COMMITTEES

Scientific Work

Joseph Yampolsky, Chairman (1935)	Atlanta
S. T. R. Revell (1936)	Louisville
Geo. A. Traylor (1937)	Augusta
Allen H. Bunce, Secretary-Treasurer	Atlanta

Public Policy and Legislation

Dan Y. Sage, Chairman (1937)	Atlanta
Grady N. Coker (1935)	Canton
A. R. Rozar (1936)	Macon
Allen H. Bunce, Secretary-Treasurer	Atlanta
T. F. Abercrombie, Director, Department of Public Health, State of Georgia	Atlanta

Medical Defense

Frank K. Boland, Chairman (1938)	Atlanta
J. O. Elrod (1936)	Forsyth
Wm. A. Mulherin (1939)	Augusta
J. A. Redfearn, Chairman of Council	Albany
Allen H. Bunce, Secretary-Treasurer	Atlanta

Hospitals

R. H. Oppenheimer, Chairman (1937)	Atlanta
Geo. F. Klugh (1935)	Atlanta
Arthur D. Little (1936)	Thomasville
D. Henry Poer (1938)	Atlanta
C. D. Whelchel (1939)	Gainesville

Abner Wellborn Calhoun Lectureship

Jas. E. Paullin, Chairman (1938)	Atlanta
H. I. Reynolds (1939)	Athens
Eugene E. Murphey (1935)	Augusta
Craig Barrow (1936)	Savannah
Frank K. Boland (1937)	Atlanta

Economics

Frank K. Boland, Chairman (1935)	Atlanta
C. W. Roberts (1938)	Atlanta
C. L. Ridley (1936)	Macon

Dan Y. Sage (1937)	Atlanta
J. H. Downey (1939)	Gainesville

Necrology

A. J. Mooney, Chairman	Statesboro
F. Phinzy Calhoun	Atlanta
Thos. J. McArthur	Cordele

*Medical History of Georgia**Sub-Committee*

Frank K. Boland, Chairman	Atlanta
William R. Dancy	Savannah
Arthur G. Fort	Atlanta

Crawford W. Long Memorial Prize

William R. Dancy, Chairman	Savannah
Stewart R. Roberts	Atlanta
V. P. Sydenstricker	Augusta
George Bachmann	Atlanta
Edgar R. Pund	Augusta

Cancer Commission

J. L. Campbell, Chairman	Atlanta
William H. Myers	Savannah
Chas. H. Watt	Thomasville
Emory R. Park	LaGrange
Chas. C. Harrold	Macon
R. M. Harbin	Rome
Kenneth McCullough	Waycross
Grady N. Coker	Canton
G. T. Bernard	Augusta
Mrs. J. Bonar White, Ex-Officio—Woman's Auxiliary	Atlanta

Advisory-State Board of Health

C. W. Roberts, Chairman	Atlanta
Wm. H. Myers	Savannah
M. M. McCord	Rome
M. E. Winchester	Brunswick
Marcus Mashburn	Cumming
H. M. Tolleson	Eastman
T. F. Abercrombie	Atlanta

Advisory Committee—Woman's Auxiliary

B. H. Minchew, Chairman	Waycross
Jas. N. Brawner	Atlanta
Chas. H. Richardson	Macon
J. E. Penland	Waycross
C. G. Butler	Gainesville

L. G. Hardman Silver Loving Cup

W. A. Selman, Chairman	Atlanta
Wm. A. Mulherin	Augusta
Chas. H. Watt	Thomasville
Wm. H. Myers	Savannah

Crawford W. Long Bronze Statue To Cooperate With Chamber of Commerce, Jefferson, Georgia

Garnett Quillian, Chairman	Atlanta
E. M. McDonald	Jefferson
S. T. R. Revell	Louisville
Wm. H. Myers	Savannah
Chas. W. Crane	Augusta

Study of Maternal Mortality and Infant Deaths

E. D. Colvin, Chairman	Atlanta
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First District

Guy G. Lunsford	Atlanta
A. J. Waring	Savannah

Second District

I. M. Lucas	Albany
S. L. Cheshire	Thomasville

<i>Third District</i>	
Carl P. Savage.....	Montezuma
J. C. Patterson.....	Cuthbert
<i>Fourth District</i>	
Thos. S. Bailey.....	Newnan
S. C. Rutland.....	LaGrange
<i>Fifth District</i>	
J. R. McCord.....	Atlanta
E. D. Colvin.....	Atlanta
<i>Sixth District</i>	
Edward B. Claxton.....	Dublin
J. D. Applewhite.....	Macon
<i>Seventh District</i>	
P. O. Chaudron.....	Cedartown
J. E. Lester.....	Marietta
<i>Eighth District</i>	
John W. Simmons.....	Brunswick
G. T. Crozier.....	Valdosta
<i>Ninth District</i>	
M. B. Allen.....	Hoschton
D. H. Garrison.....	Tate
<i>Tenth District</i>	
S. S. Smith.....	Athens
Joseph Akerman.....	Augusta
<i>Ex-Officio</i>	
T. F. Abercrombie, Director, Department of Public Health for Georgia.....	Atlanta

Fraternal Delegates to Other State Meetings

- To Visit Alabama—H. J. Goodwyn, Carrollton; and J. T. McCall, Rome.
 To Visit Florida—Arthur G. Fort, Atlanta; and Wm. S. Goldsmith, Atlanta.
 To Visit North Carolina—John K. Burns, Gainesville; and Bradley B. Davis, Gainesville.
 To Visit South Carolina—Wm. R. Dancy, Savannah; and Wm. A. Mulherin, Augusta.

State Board of Health

- First District—Cleveland Thompson, Millen, Sept. 1, 1939.
 Second District—C. K. Sharp, Arlington, Sept. 1, 1939.
 Third District—Mr. R. C. Ellis, Americus, Sept. 1, 1936.
 Fourth District—Marvin M. Head, Zebulon, Sept. 1, 1937.
 Fifth District—Mr. Robert F. Maddox, Atlanta, Sept. 1, 1936.
 Sixth District—A. R. Rozar, Macon, Sept. 1, 1938.
 Seventh District—Mather M. McCord, Rome, Sept. 1, 1938.
 Eighth District—Henry W. Clements, Adel, Sept. 1, 1938.
 Ninth District—L. C. Allen, Hoschton, Sept. 1, 1939.
 Tenth District—Wm. A. Mulherin, Augusta, Sept. 1, 1937.

State of Georgia at Large Pharmaceutical Association

- T. C. Marshall, Atlanta, Sept. 1, 1935.
 Claud Rountree, Thomasville, Sept. 1, 1935.

Georgia Dental Association

- William Winston, D.D.S., Rome, Sept. 1, 1940.
 Paul McGee, D.D.S., Waycross, Sept. 1, 1940.

DISTRICT SOCIETIES

Officers and Meeting Dates

First District

President—L. W. Shaw, Savannah.
 Sec'y.-Treas.—J. L. Elliott, Savannah.
 Third Wednesdays—March and July.

Second District

President—S. E. Sanchez, Barwick.
 Sec'y.-Treas.—J. C. Brim, Pelham.
 Second Tuesdays—April and October.

Third District

President—W. A. Coleman, Eastman.
 Sec'y.-Treas.—Chas. A. Greer, Oglethorpe.
 Third Wednesday in June—Second Wednesday in November.

Fourth District

President—J. A. Corry, Barnesville.
 Sec'y.-Treas.—Marvin M. Head, Zebulon.
 First Wednesdays—February and August.

Fifth District

President—Geo. W. Fuller, Atlanta.
 Sec'y.-Treas.—Olin S. Cofer, Atlanta.
 No definite date.

Sixth District

President—H. C. Atkinson, Macon.
 Sec'y.-Treas.—W. W. Chrisman, Macon.
 Last Wednesday in June—First Wednesday in December.

Seventh District

President—A. C. Shamblin, Cartersville.
 Sec'y.-Treas.—W. P. Harbin, Jr., Rome.
 First Wednesday in April—Last Wednesday in September.

Eighth District

President—B. G. Owens, Valdosta.
 Sec'y.-Treas.—G. T. Crozier, Valdosta.
 Second Tuesdays—April and October.

Ninth District

President—M. F. Haygood, Alto.
 Sec'y.-Treas.—Pratt Cheek, Gainesville.
 Third Wednesdays—March and September.

Tenth District

President—J. M. Hull, Augusta.
 Sec'y.-Treas.—Philip R. Stewart, Monroe.
 Second Wednesdays—February and August.

DELEGATES TO THE 1935 SESSION*

<i>Counties</i>	<i>Names and Addresses</i>
Baldwin	
Bartow.....	H. B. Bradford, Pine Log
Bibb	A. R. Rozar, Macon
	Jas. B. Kay, Byron
Blue Ridge	
Brooks	
Bulloch-Candler-Evans	
Burke.....	R. L. Miller, Waynesboro
Butts	
Campbell	

*This list includes the names of all delegates which have been reported to the Secretary-Treasurer.

Carroll	W. C. Lyle, Carrollton	Putnam	
Chatham	G. H. Lang, Savannah	Rabun	J. A. Green, Clayton
	R. V. Martin, Savannah	Randolph	F. M. Martin, Shellman
Chattooga	M. Smith, Trion	Richmond	A. A. Davidson, Augusta
Cherokee	Grady N. Coker, Canton		Geo. A. Traylor, Augusta
Clarke		Screven	
Clayton-Fayette	J. R. Wallis, Lovejoy	Spalding	Marvin M. Head, Zebulon
Cobb	W. H. Perkinson, Marietta	Stephens	W. B. Heller, Toccoa
Coffee	T. H. Clark, Douglas	Stewart-Webster	W. C. Sims, Richland
Colquitt	C. C. Brannen, Moultrie	Sumter	H. A. Smith, Americus
Coweta		Talbot	
Crisp		Taliaferro	
Decatur-Seminole		Tattall	L. V. Strickland, Cobbtown
DeKalb		Taylor	R. C. Montgomery, Butler
Dooley	V. C. Daves, Vienna	Telfair	W. H. Born, McRae
Dougherty	F. K. Neill, Albany	Terrell	Steve P. Kenyon, Dawson
Douglas		Thomas	C. K. Wall, Thomasville
Elbert	J. E. Johnson, Jr., Elberton	Tift	
Emanuel	W. H. Lucas, Stillmore	Toombs	H. D. Youmans, Lyons
Floyd	A. F. Routledge, Rome	Tri Society—Calhoun, Early, Miller	
Forsyth			C. K. Sharp, Arlington
Franklin		Tri Society—Liberty, Long, McIntosh	
Fulton	J. J. Clark, Atlanta	Troup	Enoch Callaway, LaGrange
	T. C. Davison, Atlanta	Turner	
	L. M. Gaines, Atlanta	Upson	F. M. Woodall, Thomaston
	Ed. H. Greene, Atlanta	Walker	R. F. Payne, Lafayette
	C. E. Rushin, Atlanta	Walton	W. H. Lott, Monroe
	E. D. Shanks, Atlanta	Ware	W. F. Reavis, Waycross
	R. Hugh Wood, Atlanta	Warren	
Glynn	L. W. Pierce, Brunswick	Washington	N. J. Newsom, Sandersville
Gordon	Z. V. Johnston, Calhoun	Wayne	J. A. Leophart, Jesup
Grady	J. V. Rogers, Cairo	Whitfield	G. L. Broadrick, Dalton
Greene		Wilcox	
Gwinnett	D. C. Kelley, Lawrence	Wilkes	
Habersham	M. F. Haygood, Alto	Worth	Gordon S. Sumner, Poulan
Hall	J. H. Downey, Gainesville		
Hancock	H. L. Earl, Sparta		
Hart			
Henry	J. G. Smith, McDonough		
Houston-Peach			
Jackson-Barrow	C. B. Almand, Winder		
Jasper			
Jefferson	S. T. R. Revell, Louisville		
Jenkins			
Johnson			
Jones			
Lamar			
Laurens			
Lowndes	H. W. Clements, Adel		
Macon	Chas. A. Greer, Oglethorpe		
McDuffie			
Meriwether	J. A. Johnson, Manchester		
Mitchell			
Monroe			
Montgomery			
Morgan	W. C. McGeary, Madison		
Muscogee	Arthur N. Berry, Columbus		
Newton	W. D. Travis, Covington		
Ocmulgee-Bleckley, Dodge, Pulaski			
	W. A. Coleman, Eastman		
Polk			

ANNOUNCEMENTS

Meetings will be held in the Ballroom, Biltmore Hotel.

Be sure to go to the Registration Desk, present your 1935 membership card and procure a badge immediately on your arrival.

Discussion of papers is open to all members and guests of the Association. It is not limited to those named on the program.

On arising to discuss a paper the speaker will please announce his name and address clearly for the benefit of the Association and stenographer.

Meetings will be called to order at the hour fixed on the program. It is especially desired that the members be prompt in their attendance.

All manuscript should be typewritten, double spaced and on one side of the paper only. Papers must be handed to the Secretary immediately after being read.

IMPORTANT NOTICE!

Delegates must present written credentials to the Committee on Credentials from the House of Delegates to secure Delegates' badges.

Members may not take part in the proceedings until they have registered and procured official badges.

PUBLIC MEETINGS

Daylight Saving Time

WEDNESDAY, MAY 8, 9:00 A.M.

Opening Meeting

Ballroom, Biltmore Hotel

WEDNESDAY, MAY 8, 8:30 P.M.

Ballroom, Biltmore Hotel

Presentation of the "Badge of Service" to the President, Clarence L. Ayers, Toccoa, by W. A. Selman, Atlanta.

NEWER CONCEPTS OF IMMUNITY AND ALLERGY— THEIR IMPORTANCE IN MODERN MEDICINE

Reuben L. Kahn

Director of Laboratories of the University of Michigan Medical School, Ann Arbor, Michigan.

Introduction by Joseph Yampolsky, Atlanta

MOVIE—AMERICAN MEDICAL ASSOCIATION

Austin A. Hayden

Head of Department of Otolaryngology and Ophthalmology, St. Joseph's Hospital, Chicago

Introduction by Allen H. Bunce, Atlanta

THURSDAY, MAY 9, 12:00 NOON

President's Address

The President's Address will be at an open session to which the public and visitors are invited.

MEMORIAL EXERCISES

A. J. Mooney, Statesboro, Chairman
Committee on Necrology.

ENTERTAINMENTS

WEDNESDAY, MAY 8, 6:30 P.M.

Annual dinner of the alumni of the University of Georgia School of Medicine, Biltmore Hotel.

Annual dinner of the alumni of Emory University School of Medicine, Biltmore Hotel.

THURSDAY, MAY 9, 8:00 P.M.

Banquet—Biltmore Hotel

Dance—10:00 to 2:00

SPORTS

Golf courses will be open to all players.

The Fulton County Pediatric Society will be host at a dinner to the members of the Georgia Pediatric Society to be given at the Biltmore Hotel, Wednesday, May 8, 6:00 P.M. The officers of the Fulton County Pediatric Society are:

Joseph Yampolsky, President.

Don F. Cathcart, Vice-President.

T. I. Willingham, Secretary.

Officers of the Georgia Pediatric Society are:

Benjamin Bashinski, Macon, President.

Wm. Willis Anderson, Atlanta, President-Elect.

R. C. McGahee, Augusta, Vice-President.

Roger W. Dickson, Atlanta, Sec'y.-Treas.

MEETING OF THE COUNCIL

The first meeting of the Council will be held in the Ballroom of the Biltmore Hotel, Tuesday, May 7, at 6:30 P.M. Each Councilor will render a written report of conditions in each county in his district. Other meetings of the Council will be held on the call of the chairman.

MEETING OF THE HOUSE OF DELEGATES

Ballroom, Biltmore Hotel

TUESDAY, MAY 7, 2:30 P.M.

Daylight Saving Time

First meeting of the House of Delegates.

1. Call to order by the President.
2. Roll call.
3. Appointment of Reference Committee.
4. Reports of officers:
 - President.
 - President-Elect.
 - Vice-Presidents.
 - Parliamentarian.
 - Secretary-Treasurer: Financial report.
 - Preliminary report of the Committee on Economics and Public Relations.
 - General discussion so that Committee may make its final report later.
- a. Scientific Work.
- b. Public Policy and Legislation.
- c. Arrangements.
- d. Medical Defense.
- e. Hospitals.
- f. Necrology.
- g. Cancer Commission.
- h. History.
- i. Abner Wellborn Calhoun Lectureship.
- j. Crawford W. Long Memorial Prize.
- k. L. G. Hardman Silver Loving Cup.
- l. Advisory—State Board of Health.
- m. Advisory—Woman's Auxiliary.
- n. Crawford W. Long Bronze Statue.
- o. Special Committees.
7. Report of Delegates to the A. M. A.
8. Reports of Fraternal Delegates.
9. Unfinished business.
10. New business.

TUESDAY, MAY 7, 8:00 P.M.

Daylight Saving Time

Second meeting of the House of Delegates.

1. Call to order by the President.

2. Reading of minutes.
3. Study of Maternal Mortality and Infant Deaths—
Chairman of Committee.
4. A Brief Review of Fifteen Years' Work of the
Association—Secretary-Treasurer.
5. Reports of Committees continued.
6. Unfinished business.
7. New business.

FRIDAY, MAY 9, 8:00 A.M.

Daylight Saving Time

Third meeting of the House of Delegates.

1. Call to order by the President.
2. Reading of minutes.
3. Reports of Committees.
4. Unfinished business.
5. New business

OFFICIAL REPORTER

Master Reporting Company, Chicago

HONORARY ADVISORY BOARD of the

MEDICAL ASSOCIATION OF GEORGIA

W. F. Westmoreland	President, 1894-1895
T. J. McArthur	President, 1909-1910
Ralston Lattimore	President, 1913-1914
W. S. Goldsmith	President, 1915-1916
J. G. Dean	President, 1916-1917
E. E. Murphey	President, 1917-1918
J. W. Palmer	President, 1918-1919
J. M. Smith	President, 1922-1923
J. W. Daniel	President, 1923-1924
J. O. Elrod	President, 1924-1925
F. K. Boland	President, 1925-1926
V. O. Harvard	President, 1926-1927
W. A. Mulherin	President, 1927-1928
C. K. Sharp	President, 1928-1929
Wm. R. Dancy	President, 1929-1930
A. G. Fort	President, 1931-1932
M. M. Head	President, 1932-1933
C. H. Richardson	President, 1933-1934

PROGRAM

The papers for each meeting must be read as scheduled on the program.

WEDNESDAY, MAY 8, 1935

Ballroom, Biltmore Hotel

9:00 A.M.

Daylight Saving Time

Call to order by the President, Clarence L. Ayers, Toccoa.

INVOCATION

Rev. Nat G. Long.....Atlanta
Pastor of Glenn Memorial Church

ADDRESS OF WELCOME

Edgar D. Shanks.....Atlanta
President, Fulton County Medical Society

RESPONSE TO ADDRESS OF WELCOME

Olin H. Weaver.....Macon

SCIENTIFIC PAPERS

1. Ox Fascia Repair in the Cure of Hernia.
M. J. Egan, Savannah.
To lead the discussion:
Lon W. Grove, Atlanta.
2. Carcinoma of the Colon.
Frank K. Boland, Atlanta.
To lead the discussion:
George A. Traylor, Augusta.
3. Pneumoperitoneum Following Operation for
Hernia (Five Minutes).
A. R. Rozar, Macon.
4. The Treatment of Varicose Veins and Ulcers
(10 Minutes).
Chas. E. Rushin, Atlanta.
To lead the discussion:
J. Dewey Gray, Augusta.
5. The Fifth Lumbar Vertebra as a Cause of Low
Back Pain.
Thomas P. Goodwyn, Atlanta.
H. Walker Jernigan, Atlanta.
To lead the discussion:
Henry M. Michel, Augusta.
6. Treatment of Fractures of the Hip (Neck of
Femur) with Internal Fixation and Immedi-
ate Motion of the Joint.
Lawson Thornton, Atlanta.
Calvin Sandison, Atlanta.
To lead the discussion:
Joseph H. Hines, Atlanta.
Floyd W. McRae, Atlanta.

ABNER WELLBORN CALHOUN LECTURE

*The Treatment by the General Practitioner of the
More Common Diseases of the Nervous System.*

Lewellys Franklin Barker

Professor Emeritus of Medicine, Johns Hopkins
University School of Medicine, Baltimore,
Maryland.

Introduction by James E. Paullin, Atlanta

WEDNESDAY, MAY 8, 2:00 P.M.

Daylight Saving Time

Ballroom, Biltmore Hotel

Symposium on Pediatrics

1. The Treatment of Empyema in Children by
Aspiration (12 Minutes).
C. M. Burpee, Augusta.
To lead the discussion:
Don F. Cathcart, Atlanta.
2. Poor Appetite in Children (12 Minutes).
William H. Kiser, Jr., Atlanta.
To lead the discussion:
Joseph Yampolsky, Atlanta.
3. Chest Conditions in Infants and Children (12
Minutes).

Wm. Willis Anderson, Atlanta.

To lead the discussion:

H. P. Harrell, Augusta.

4. The Treatment of Clinical Acidosis (12 Minutes).

Philip A. Mulherin, Augusta.

To lead the discussion:

Wm. C. Cook, Columbus.

5. Methods and Results in the Treatment of Diabetic Children (12 Minutes).

Harold M. Bowcock, Atlanta.

To lead the discussion:

V. P. Sydenstricker, Augusta.

6. Mechanism and Treatment of Non-Diabetic Ketosis.

Ruskin King, Savannah.

To lead the discussion:

C. Hall Farmer, Macon.

WEDNESDAY, MAY 8, 8:30 P.M.

Daylight Saving Time

Ballroom, Biltmore Hotel

Presentation of the "Badge of Service" to the President. Clarence L. Ayers, Toccoa, by W. A. Selman, Atlanta.

Newer Concepts of Immunity and Allergy—Their Importance in Modern Medicine

Reuben L. Kahn

Director of Laboratories of the University of Michigan Medical School, Ann Arbor, Michigan

Introduction by Joseph Yampolsky, Atlanta.

Movie—American Medical Association

Austin A. Hayden

Head of Department of Otolaryngology and Ophthalmology, St. Joseph's Hospital, Chicago.

Introduction by Allen H. Bunce, Atlanta.

THURSDAY, MAY 9, 9:00 A.M.

Daylight Saving Time

Ballroom, Biltmore Hotel

1. Hypothyroid Heart Disease—Case Report (10 Minutes).

John W. Brittingham, Augusta.

To lead the discussion:

Hal M. Davison, Atlanta.

2. Laboratory Aids in the Diagnosis of Typhoid Fever (12 Minutes).

T. F. Sellers, Atlanta.

To lead the discussion:

David L. Seckinger, Atlanta.

3. Relationship of Drugs to the Leukopenic State.

Roy R. Kracke, Emory University.

Francis Parker, Emory University.

To lead the discussion:

Charles C. Hinton, Macon.

4. Treatment of Acute Lobar Pneumonia—Review of Five Year Records on Pneumonia in Atlanta Hospitals (12 Minutes).

C. C. Aven, Atlanta.

A. Worth Hobby, Atlanta.

To lead the discussion:

H. M. Tolleson, Eastman.

5. The Trend of Medical Education.

Russell H. Oppenheimer, Emory University.

To lead the discussion:

G. Lombard Kelly, Augusta.

6. The Responsibility of the General Practitioner in Diseases of the Eye (12 Minutes).

Zach W. Jackson, Atlanta.

To lead the discussion:

W. R. Bedingfield, Augusta.

THURSDAY, MAY 9, 12:00 NOON

Daylight Saving Time

Ballroom, Biltmore Hotel

President's Address

Clarence L. Ayers, Toccoa

President, Medical Association of Georgia

Memorial Exercises

A. J. Mooney, Statesboro

Chairman, Committee on Necrology

THURSDAY, MAY 9, 2:00 P.M.

Ballroom, Biltmore Hotel

Daylight Saving Time

1. Laryngeal Tuberculosis.

Louis C. Rouglin, Atlanta.

To lead the discussion:

B. H. Minchew, Waycross.

2. The Treatment of Thyroid Disorders.

Henry Poer, Atlanta.

To lead the discussion:

Robert L. Rhodes, Augusta.

3. Appendicitis, Factors Influencing the Mortality.

Dan C. Elkin, Atlanta.

To lead the discussion:

R. M. Harbin, Jr., Rome.

4. Carotid Body Tumor (10 Minutes).

Sam Brock, Augusta.

To lead the discussion:

Everett L. Bishop, Atlanta.

5. Benign Fibroma of the Small Bowel (12 Minutes).

Ralph H. Chaney, Augusta.

To lead the discussion:

Stewart D. Brown, Royston.

6. Acute Ruptured Peptic Ulcer: A Study of 32 Cases.

J. C. Patterson, Cuthbert.

To lead the discussion:

William H. Myers, Savannah.

FRIDAY, MAY 10, 9:00 A. M.

Daylight Saving Time

Ballroom, Biltmore Hotel

1. A Discussion of the Treatment of Syphilis in Pregnancy with the Report of Three Cases of Arsenical Encephalitis Complicating Such Treatment.

E. Bryant Woods, Augusta.

To lead the discussion:

Amey Chappell, Atlanta.

2. The Chronic Cough—A Clinical and Radiological Study.

Robert C. Pendergrass, Americus.

To lead the discussion:

Herbert J. Rosenberg, Atlanta.

3. Scientific Management of Anal Fissure.

Chas. E. Hall, Atlanta.

To lead the discussion:

Hulett H. Askew, Atlanta.

4. Treatment of Complete Prolapse of the Uterus by the Vaginal Route—Moving Pictures.

Olin S. Cofer, Atlanta.

To lead the discussion:

Simon H. Smith, Atlanta.

5. Irradiation Versus Surgery in Breast Malignancies.

Wm. Perrin Nicolson, Atlanta.

To lead the discussion:

Robert Drane, Savannah.

6. Carcinoma of the Cervix.

Jas. A. Fountain, Macon.

To lead the discussion:

John F. Denton, Atlanta.

ALTERNATE

Ovarian Grafts—Case Reports.

Linton Smith, Atlanta.

FRIDAY, MAY 10, 12:00 NOON

Daylight Saving Time

Election of Officers

President-Elect.

First Vice-President.

Second Vice-President.

Secretary-Treasurer.

Parliamentarian.

One delegate to the A. M. A.

One alternate delegate to the A. M. A.

Councilors for the 7th, 9th, and 10th Districts.*

Selection of meeting place for 1936.

*Nominated by their respective district societies.

CONSTITUTION AND BY-LAWS

Chapter II, Section 2. No papers or addresses before the Association, except those of the President and invited essayists, shall occupy more than fifteen minutes in their delivery; and no member shall speak longer than five minutes, nor more than once on any subject, provided that each essayist shall have five minutes in which to close the discussion of his paper.

Chapter VIII, Section 1. The deliberations of this Association shall be governed by parliamentary usage as contained in Roberts' Rules of Order, when not in conflict with this Constitution and By-Laws.

Chapter VIII, Section 2. All papers read before the Association shall become its property. Each paper shall be deposited with the Secretary when read, and if this is not done, it shall not be published.

No miscellaneous or business matters will be discussed before the scientific meetings, but will be referred to the House of Delegates.

Resolution Adopted 1921

Resolved. That a member who sends in a title of a paper to be placed on the program and is not present to read the paper shall pay the penalty of not having an opportunity to appear on the program for two years, unless he presents an excuse acceptable to the Committee on Scientific Work.

NOTICE TO MEMBERS PARTICIPATING IN THE SCIENTIFIC EXHIBIT

Three certificates of merit, to be known as first, second and third prizes, will be given by the Committee on Scientific Work to the three outstanding exhibits at this session of the Medical Association of Georgia. These will be judged on the first day of the session.

We are instructed by the President to announce to all essayists that the session of the Scientific Program of the Association will begin on time, and that the above regulations of the By-Laws in reference to the program will be strictly enforced.

COMMITTEE ON SCIENTIFIC WORK

Joseph Yampolsky, Atlanta, Chairman.

S. T. R. Revell, Louisville.

George A. Traylor, Augusta.

Allen H. Bunce, Atlanta, Secretary-Treasurer.

IN MEMORIAM*

Austin, William Hubert, Griffin, March 15, 1935, aged 60.

Barfield, Frederick Green, Jacksonville, Florida, December 25, 1934, aged 61.

Bennett, Jesse C., Jefferson, April 19, 1934, aged 65.

Bowers, William L., Camilla, February 8, 1935, aged 69.

Burnett, George W., Whitesburg, June 19, 1934, aged 81.

Campbell, Moses Gatlin, Atlanta, February 15, 1935, aged 74.

Clements, James Wilson, Subigna, June 6, 1934, aged 96.

Collum, Oscar Frederick, McRae, November 14, 1934, aged 52.

Crowe, William A., Smyrna, April 4, 1935, aged 78.

Curtis, Charles McPherson, College Park, May 6, 1934, aged 68.

Day, Julius B. H., Social Circle, September 7, 1934, aged 66.

Dorminy, William David, Fitzgerald, June 4, 1934, aged 63.

Eberhart, Alvin Barney, McDonough, January 4, 1935, aged 44.

- Fulcher, Marion O., Waynesboro, January 16, 1935, aged 65.
- Griffies, John Calhoun, Burwell (Carrollton), July, 26, 1934, aged 74.
- Hice, Edward Houston, Rock Springs, August 31, 1934, aged 66.
- Holliday, Paul Lovejoy, Athens, April 22, 1934, aged 41.
- Houseworth, Delvous, April 18, 1934, aged 64.
- Hubbard, Francis Marion, Commerce, November 9, 1934, aged 78.
- Murdock, Joseph L., Emerson, January 29, 1935, aged 73.
- Nunez, Jackson M., Swainsboro, October 10, 1934, aged 75.
- Pirkle, William W., Cumming, June 8, 1934, aged 64.
- Rogers, John Mitchell, Barnesville, February 28, 1935, aged 60.
- Smith, Ernest Lacy, Eastman, January 28, 1935, aged 70.
- Stovall, Albert S. J., Elberton, June 21, 1934, aged 72.
- Sutton, William Harry, Midville, October 21, 1934, aged 51.
- Walker, Sidney, Dublin, January 21, 1935, aged 55.
- Wallis, George W., Fayetteville, June 17, 1934, aged 73.
- Williams, Charles Winn, Cedartown, March 8, 1935, aged 45.

*This is the list of members who have died since our last annual session as it appears on our records. Please notify the Secretary-Treasurer of any errors or omissions.

SCIENTIFIC EXHIBIT

Mezzanine Floor

Biltmore Hotel

EXHIBIT OPEN MAY 7TH, 8TH, 9TH AND 10TH

SCIENTIFIC EXHIBIT COMMITTEE

Mark S. Dougherty, Jr., Atlanta, Chairman.
J. D. Martin, Atlanta.
Roy R. Kracke, Atlanta.

EMORY UNIVERSITY GROUP EXHIBIT

(1) *Development of Diabetic Diets*, Harold Bowcock. Exhibit shows by charts of menus and exhibits of prepared present day diets, the contrast between diets of the Allen type, the high fat type, and early insulin period type and the present day type.

(2) *Allergy*, Hal M. Davison, Mason I. Lowance and Crawford F. Barnett.

Exhibit will consist of charts showing outline of allergic disturbances, testing blands, list of contactants, extracts, crude material, finished material, method of preparation and testing.

(3) *Serial Electrocardiograms In Coronary Occlusion*, Carter Smith and H. C. Sauls.

Exhibit of findings by means of fifteen serial electrocardiograms.

(4) *Diseases of Skin*, Howard Hailey.

Photograms of some unusual and interesting diseases of the skin and syphilis.

(5) *Pathology, Diagnosis and Treatment of Syphilis of the Central Nervous System*, R. B. Wilson.

Exhibit consists of illustrations by photographs and microscopic demonstrations of the various types of pathological changes as related to clinical manifestations.

(6) *Blood Dyscrasias*, Roy R. Kracke and Mrs. Hortense Garver. An exhibit illustrating the various blood dyscrasias, including leukemias, the anemic states, etc. Shown by charts, case histories, microscopic preparations and drawings.

(7) *The Etiology of Granulopenia (Agranulocytosis)*, Roy R. Kracke and Francis P. Parker.

Exhibit of charts, tables, graphs and diagrams illustrating the incidence of granulopenia in nurses, physicians and physicians' families; studies bearing on geographic distribution and on the incidence as related to the administration of certain types of drugs with evidence that the disease is caused by the administration of certain benzene containing drugs and barbiturates; records of animal experiments showing effect of these drugs in rabbits.

(8) *Exhibition of Surgical Specimens*, Dan C. Elkin, J. D. Martin and John Mooney.

Exhibit consists of case histories, gross specimens and microscopic descriptions of, 1. Thyroid diseases, 2. Salivary tumor.

(9) *Chest Conditions In Infants and Children*, Wm. Willis Anderson and Don F. Cathcart.

A clinical study of chest conditions in infants and children; lobar pneumonia more common in infants than bronchial pneumonia; a critical study of aspiration of empyema of the pleural cavities; bilateral empyema; an attempt to treat empyema with air replacement; etc.

(10) *The Feet In Infancy and Childhood*, Lee Bivings.

A new device for foot printing and heel printing. A method of filing records for permanent use. A method of classification of feet by analysis of the foot prints. Display of many records, photographs and plaster casts of children's feet, both whites and negroes.

(11) *Cases of Peripheral Aneurysm*, Dan C. Elkin and J. L. Campbell.

Exhibit showing approximately eight drawings with descriptive notes illustrating all types of aneurysms and protective procedures.

(12) *Motion-Picture Demonstration of Tannic Acid Treatment of Burns*, J. D. Martin.

Outline of complete treatment for a burn from beginning to final grafting, showing methods of applying tannic acid and systemic treatment.

(13) *Study of Cases of Impacted Ureteral Calculus and of Quadruple Kidneys*, Dewey T. Nabors.

Exhibit of a series of x-ray films and pyelograms showing diagnosis and end results with recovery.

UNIVERSITY OF GEORGIA SCHOOL OF MEDICINE

(1) *Preservation of Learning Ability After Total Removal of the Cerebral Cortex (Moving Picture)*, Fred A. Mettler (Department of Anatomy).

Following total removal of the cerebral cortex learning ability is preserved. Total deafness or anesthesia to tactile and thermal stimuli does not follow removal of all the cerebral cortex. That conditioned reflexes may still be established is demonstrated by the method of Bechterew.

(2) *Direct Method of Determining Blood Pressure Suitable For Use In Humans, Animals and Fetuses.*

Departments of Physicology, Pharmacology, Medicine, Gynecology and Obstetrics.

A manometer will be exhibited with which one can take continuous records of human systolic and diastolic pressures. The artery is entered with a small hypodermic needle and the recording is done optically. Tracings will be exhibited showing the effects of physiological changes, effects of certain drugs and a comparison of the true blood pressure with the findings of oscillatory and auscultatory methods.

(3) *Some Applications of the Falling Drop Method for the Determination of Specific Gravity.*

Department of Physiology and Pharmacology.

The falling drop method of determining specific gravity will be demonstrated. By this method one can determine the specific gravity of 10 cu. mm. samples of fluids with an error of one unit in the fourth decimal place. It is applicable to such fluids as cerebro spinal fluid, ascitic fluid, urine, serum and blood.

(4) *Transplantation of Limbs in Salamanders,* Walter Alva Stultz (Department of Anatomy).

A demonstration of the various operating instruments will be made together with a display of about twenty embryos upon which operations have been performed. Each embryo will be contained in a small dish of about six cm. diameter. A binocular dissecting microscope and light will be used as a set up for the demonstration of the operation itself.

(5) Exhibit of electrocardiograms showing evidence of myocardial changes in early and in asymptomatic latent syphilis. Harry Taylor Harper, Jr.

Educational Exhibit of the Cancer Commission of The Medical Association of Georgia

Anatomical Drawings

Miss Lillian Kennedy, Atlanta

Full Length Radiograph

Eastman Kodak Company, Atlanta

Various Types of Cancer, W. F. Lake and A. J. Ayers, Atlanta. Exhibit consists of photographs, roentgenograms, museum specimens and microscopic studies of cancer.

State Department of Health Exhibit

T. F. Sellers

(1) Microscopic demonstration of usual and unusual pathogens.

(2) Intestinal parasites, demonstration of specimens

(3) Laboratory diagnosis of rabies.

(4) Laboratory diagnosis of fevers.

(5) Film (moving picture) dealing with the biology of malaria. Also showing various methods of malaria control.

Screw Worm Infestation

Exhibit Prepared by W. E. Dove

U. S. Bureau of Entomology

Presented by Mr. Manning Yoemans, State Department of Entomology

Atlanta Tuberculosis Association

The exhibit commemorates the fiftieth anniversary of the work begun by Edward W. Trudeau. Also it explains the tuberculosis control program followed during this period.

The Effect of Bismuth on the Wassermann Reaction and a Review of Aortic Regurgitation. L. Minor Blackford, Atlanta.

Esophagectomy with Exposure by Laryngectomy.

Total laryngectomy for Cancer (moving pictures).

Murdock Euen, Atlanta.

Esophagectomy with exposure by laryngectomy is illustrated.

A patient is presented whose larynx was resected for carcinoma grade 4 more than two years ago.

The advantages of the biplane fluoroscope in bronchoscopic work are illustrated.

Interesting Orthopedic Conditions, T. P. Goodwyn and H. Walker Jernigan, Atlanta.

1. Fractures. 2. Osteomyelitis. 3. Bone tumors. 4. Congenital club feet. Clinical studies, charts, lantern slides and photographs will be included.

Unusual Syphilodermata, Jack W. Jones and Herbert S. Alden, Atlanta.

Variety of Orthopedic Conditions with Illustrations Before and After Treatment.

J. H. Kite, Scottish Rite Hospital, Decatur

(1) *Demonstration of Fractures and Diseases of Bone.*

(2) *Motion Pictures Showing Treatment of Fractures of the Femur and Hip.*

Lawson Thornton and Calvin Sandison, Atlanta.

Amebiasis

Epidemiology, clinical characteristics and pathology with presentation of specimens and slides.

Mark S. Dougherty, Jr., Atlanta.

Electrocardiographic Exhibit

A Study of Arteriosclerosis of the Coronary Arteries. E. A. Bancker, Jr., Atlanta.

This exhibit shows the ever-increasing importance of the electrocardiogram as a diagnostic adjunct and a method of precision which is indispensable in mak-

ing a complete cardiac diagnosis. More particularly it deals with T wave negativity and the localization of cardiac infarcts and the lengthened Q-wave in lead three.

UROLOGICAL SPECIMENS
Earl Floyd and J. L. Pittman
Atlanta.

COMMERCIAL EXHIBIT

1. American Surgical Supply Company, 23 Houston Street, N.E., Atlanta, Georgia.
2. Horlick's Malted Milk Corporation, Racine, Wisconsin.
- 3-3½. Harrower Laboratory, Glendale, California.
4. Surgical Selling Company, 139 Forrest Avenue, N. E., Atlanta, Georgia.
5. S. & H. X-Ray Company, 429 Peachtree Street, N. E., Atlanta, Georgia.
- 6-7. Everhart Surgical Supply Company, 493 Peachtree Street, N. E., Atlanta, Georgia.
8. Lea & Febiger, 600 South Washington Square, Philadelphia, Pennsylvania.
9. Max Woche & Son Company, Cincinnati, Ohio.
10. Health Products Corporation, 113 North 13th Street, Newark, New Jersey.
11. General Electric X-Ray Corporation, 2012 Jackson Boulevard, Chicago, Illinois.
- 12-12½. Westinghouse X-Ray Company, Inc., Long Island City, New York.
14. C. B. Fleet Company, Lynchburg, Virginia.
15. Winthrop Chemical Company, 170 Varick Street, New York City.
16. Mead Johnson & Company, Evansville, Indiana.
17. Gerber Products Company, Fremont, Michigan.
18. M. & R. Dietetic Laboratories, Inc., Columbus, Ohio.
19. J. A. Majors Company, 1301 Tulane Avenue, New Orleans, Louisiana.
20. Philip Morris & Company, Ltd., Inc., 119 Fifth Avenue, New York City.
- 21-22. Estes Surgical Supply Company, 56 Auburn Avenue, N. E., Atlanta, Georgia.
E. R. Squibb & Sons, 745 Fifth Avenue, New York City.

**CONSTITUTION AND BY-LAWS OF
THE MEDICAL ASSOCIATION
OF GEORGIA
BY-LAWS**

Constitution

ARTICLE I.—NAME OF THE ASSOCIATION.

The name and title of this organization shall be the Medical Association of Georgia.

ARTICLE II.—PURPOSES OF THE ASSOCIATION

The purpose of this Association shall be to federate and bring into one compact organization the entire medical profession of the State of Georgia; to extend medical knowledge and advance medical science; to elevate the standard of medical education and to secure the enactment and enforcement of just medical laws; to promote friendly intercourse among physicians; to guard and foster the material interests of its members and to protect them against imposition; and to enlighten and direct public opinion in regard to the great problems of state and medicine, so that the profession shall become more capable and honorable within itself, and more useful to the public, in the prevention and cure of disease, and in prolonging and adding comfort to life.

ARTICLE III.—COMPONENT SOCIETIES

Component societies shall consist of those county societies which hold charters from this Association.

ARTICLE IV.—COMPOSITION OF THE ASSOCIATION

Section 1. This Association shall consist of members and delegates.

Sec. 2. Members: The members of this Association shall be the members of the component county medical societies to which only white physicians shall be eligible.

Sec. 3. Delegates: Delegates shall be those members who are elected in accordance with this Constitution and By-Laws to represent their respective component societies in the House of Delegates of this Association.

ARTICLE V.—HOUSE OF DELEGATES

The House of Delegates shall be the legislative body of the Association, and shall consist of: (1) delegates elected by the component county societies; (2) the officers of the Association enumerated in Section 1 of Article IX of the Constitution; (3) ex-presidents and delegates to the American Medical Association.

ARTICLE VI.—COUNCIL

The Council shall be the Board of Trustees and Finance Committee of the Association. The Council shall have full authority and power of the House of Delegates between annual sessions, unless the House of Delegates be called into session as provided in the Constitution and By-Laws.

It shall consist of the Councilors, the President, the President-Elect and the Secretary-Treasurer of the Association. Five of its members shall constitute a quorum.

ARTICLE VII.—SESSIONS AND MEETINGS

Sec. 1. The annual sessions shall take place on the second Wednesday in May at such place as shall be designated by the Association, provided that in case of conflict with the meeting of the American Medical Association the Council may change the date by

publishing a notice in the Journal of the Medical Association of Georgia three months before the session.

Sec. 2. Special meetings of either the Association or the House of Delegates may be called by a two-thirds vote of the Council, or upon the petition of twenty delegates.

ARTICLE VIII.—SECTIONS AND DISTRICT SOCIETIES

Section 1. The House of Delegates may provide for a division of the scientific work of the Association into appropriate sections, and for the organization of such Councilor district societies as will promote the best interests of the profession such societies to be composed exclusively of members of component county societies.

ARTICLE IX.—OFFICERS

Section 1. The officers of this Association shall be a President, President-Elect, two Vice-Presidents, a Secretary-Treasurer, a Parliamentarian, and one Councilor for each congressional district in the state.

Sec. 2. The officers, except the Secretary-Treasurer, Parliamentarian and Councilors, shall be elected annually, provided that after the annual meeting of 1928 a President-Elect and not a President shall be elected annually. The President-Elect shall assume his office as President immediately after the next annual meeting following his election. The terms of the Councilors shall be for three years, as may be arranged, viz: the Councilor for the first, second, third and fourth districts for three years; those for the fifth, sixth, seventh, and eighth districts for one year; those for the ninth and tenth districts for two years. The Secretary-Treasurer shall be elected for a term of five years, and the Parliamentarian for a term of three years. All these officers shall serve until their successors are elected and installed. (1933).

Sec. 3 The officers of this Association shall be elected by ballot at 12 o'clock noon on the third day of the annual session. Nomination for office shall be made orally, but the nominating speech must not exceed two minutes. The Councilors shall be elected at the same time, but on nomination by their respective District Societies at the annual meeting of such Societies preceding the meeting of the Association at which the vacancy occurs. If there is no election on the first ballot, the three names receiving the highest number of ballots shall be voted on, the other names being dropped. If there is no election on the second ballot, the two names receiving the highest number of ballots shall be voted on until an election occurs. Delegates to the American Medical Association shall be elected at the same time and in the same manner.

Sec. 4. The members of the State Board of Health shall be nominated by their respective district societies at the annual meeting of such societies preceding the annual session of this Association, and in failure of nomination by district societies, they may be nominated by the delegates present from each of the district societies, all of which shall be ratified by this Association.

ARTICLE X.—FUNDS AND EXPENSES

Funds shall be raised by an equal per capita assessment on each component society. The amount of the assessment shall not exceed the sum of \$10.00 per capita per annum. Funds may be appropriated by the House of Delegates to defray the expenses of the Association, for publications, and for such other purposes as will promote the welfare of the profession. All resolutions appropriating funds must be approved by the Finance Committee before action is taken thereon.

ARTICLE XI.—RATIFICATION

The House of Delegates shall submit all questions before it to the Association for ratification.

ARTICLE XII.—THE SEAL

The Association shall have a common seal, with power to break, change or renew the same at pleasure.

ARTICLE XIII.—AMENDMENTS

Any amendment that may be offered to the Constitution shall lie over until the next annual session; and for its adoption at such session shall require a two-thirds vote of all present and voting.

By-Laws

CHAPTER I.—MEMBERSHIP

Section 1. The name of a physician on the properly certified roster of members of a component society, which has paid its annual assessment, shall be *prima facie* evidence of membership in this Association.

Sec. 2. Any person who is under sentence of suspension or expulsion from a component society or whose name has been dropped from its roll of members, shall not be entitled to any of the rights or benefits of this Association, nor shall he be permitted to take part in any of its proceedings until he has been relieved of such disability.

Sec. 3. Each member in attendance at the annual session shall enter his name on the registration book, indicating the component society of which he is a member. When his right to membership has been verified by reference to the roster of his society, he shall receive a badge which shall be evidence of his right to all the privileges of membership at that session. No member shall take part in any of the proceedings of an annual session until he has complied with the provisions of this section.

Sec. 4. Any member for old age, length of service, or other good reasons, may, upon recommendation of the Board of Censors, be elected to honorary membership of his county society without dues. Such member shall be enrolled as an honorary member of his county society and the Association, and shall be entitled to all the privileges of the Association.

Sec. 5. In addition to regular and honorary members, upon recommendation of the Board of Censors, associate members and intern members may be elected by any constituent county society without the payment of dues. The associate members will be such as may be eligible for regular membership, but not in very active practice and usually with a very limited income—also

certain salaried physicians and members of the Army, Navy, U. S. Public Health Service, etc. These are privileged to attend and participate in all scientific meetings, but can not hold office and do not receive Journal or benefits of Medical Defense. Intern members are limited to interns in hospitals and are only privileged to attend and participate in scientific meetings. (1933).

Sec. 6. Any physician applying for membership in a component medical society of this Association, who has previously practiced in a county in which affiliation with a component society is provided, and who moves to another county without having affiliated with the medical society in the jurisdiction of previous residence, before he is admitted to membership, the cause for his lack of affiliation in the society of his previous residence shall be ascertained.

CHAPTER II.—GENERAL MEETINGS

Sec. 1. All registered members may attend and participate in the proceedings and discussions of the general meetings. Visitors duly accredited to represent the Association of other states, or of the District of Columbia, not exceeding two in number for each organization, may attend upon, and participate in the discussion of the general meetings, but shall not have a vote. Such delegates may read papers upon invitation of the Committee on Scientific Work. The general meetings shall be presided over by the President or by one of the Vice-Presidents.

Sec. 2. No papers or addresses before the Association, except those of the President and invited essayists, shall occupy more than fifteen minutes in their delivery; and no member shall speak longer than five minutes, nor more than once on any subject, provided that each essayist shall have five minutes in which to close the discussion of his paper.

Sec. 3. Entertainments. Any social entertainment which may be given by this Association shall be confined to the evening of the second day.

Sec. 4. Guests. Any physician not a resident of this state but a member of his state association, or any distinguished scientist not a physician, may be counted a guest during any annual session on invitation of the President, and shall be accorded the privilege of participating in the scientific work of that session.

CHAPTER III.—HOUSE OF DELEGATES

Section 1. The House of Delegates shall meet on the day preceding the first day of the annual session, the time to be fixed by the Committee on Scientific Work. It may adjourn from time to time as may be necessary to complete its business; provided that its hours shall conflict as little as possible with the general meetings. The order of business shall be arranged as a separate section of the program.

Sec. 2. Each component county society shall be entitled to send to the House of Delegates each year one delegate for every fifty members, and one for each fraction thereof, but each component society which has made its annual report and paid its assess-

ment as provided in this Constitution and By-Laws shall be entitled to one delegate. Should the regular delegate from any county not be present at the meeting, the President shall appoint a substitute from that county to act.

Sec. 3. Twenty delegates present shall constitute a quorum.

Sec. 4. It shall, through its officers, council and otherwise, give diligent attention to and foster the scientific work and spirit of the Association, and shall constantly study and strive to make each annual session a stepping-stone to future ones of higher interest.

Sec. 5. It shall consider and advise as to the material interest of the profession, and of the public in those important matters wherein it is dependent on the profession, and shall use its influence to secure and enforce all proper medical and public health legislation, and to diffuse popular information in relation thereto.

Sec. 6. It shall make careful inquiry into the condition of the profession of each county in the State, and shall have authority to adopt such methods as may be deemed most efficient for building up and increasing the interests in such county societies as already exist, and for organizing the profession in counties where societies do not exist. It shall especially and systematically endeavor to promote friendly intercourse among physicians of the same locality, and shall continue these efforts until if possible every physician in every county of the State has been brought under medical society influence.

Sec. 7. It shall encourage post-graduate and research work as well as home study, and shall endeavor to have the results utilized, and intelligently discussed in the county societies.

Sec. 8. It shall divide the State into councilor districts, one for each congressional district, and when the best interests of the Association and profession will be promoted thereby, organize in each a district medical society, and all members of component county societies and no others shall be members in such district societies.

Sec. 9. It shall have authority to appoint committees for special purposes from among members of the Association who are not members of the House of Delegates. Such committees shall report to the House of Delegates and may be present and participate in the debate thereon.

CHAPTER IV.—DUTIES OF OFFICERS

Section 1. The President shall preside at all meetings of the Association and of the House of Delegates; shall appoint all committees not otherwise provided for, and shall perform such other duties as custom and parliamentary usage may require. He shall be the real head of the profession of the State during his term of office, and as far as practicable, shall visit, by appointment, the various sections of the State and assist the Councilors in building up the county societies, and in making their work more practical and useful.

In order to give him a better opportunity of becoming more fully acquainted with his duties and with the needs of the Association, the President shall be elected one year prior to taking office. During this time he shall be known as President-Elect and shall be ex-officio member of the standing committees, and shall make recommendations at the next annual session.

Sec. 2. The Vice-Presidents shall assist the President in the discharge of his duties. In the event of the President's death, resignation or removal, the Vice-Presidents, in their order, shall succeed him.

Sec. 3. The Secretary-Treasurer shall give bond in the sum of One Thousand Dollars. He shall demand and receive all funds due the Association, together with the bequests and donations.

Sec. 4. The Secretary-Treasurer shall attend the general meetings of the Association and the meetings of the House of Delegates, and shall keep the minutes of their respective proceedings in separate record books. He shall be ex-officio Secretary of the Council. He shall be custodian of all record-books and papers belonging to the Association. He shall provide for the registration of the members, delegates and accredited visitors at the annual session. He shall, with the co-operation of the secretaries of the component societies, keep a card-index register of all the legal practitioners of the State by counties, noting on each his status in relation to his county society, and on request transmit a copy of this list to the American Medical Association. He shall aid the Councilors in the organization and improvement of the county societies in the extension of the power and usefulness of this Association. He shall conduct the official correspondence, notifying members of meetings, officers of their election, and committees of their appointment and duties. He shall employ such assistants as may be ordered by the House of Delegates with the approval of the Association, and shall make an annual report to the Association. He shall supply each component society with the necessary blanks for making their annual reports; shall keep an account with the component societies, charging against each society its assessment and collect the same. Acting with the Committee on Scientific Work, he shall prepare and issue all programs. The amount of his salary shall be fixed by the Association. He shall be editor of the Journal of the Medical Association of Georgia. He shall employ such assistants as may be ordered by the Council or the House of Delegates. He shall annually make a report of his doings to the House of Delegates.

He shall furnish a balance sheet at each annual meeting for the past fiscal year to be published in the Journal. This shall consist of an itemized statement of all financial transactions of the past year, all accounts made, money received and from whom and all moneys disbursed, to whom, and for what purpose, with vouchers attached. A fiscal year includes the period of time between the first day of May and the last day of April.

CHAPTER V.—COUNCIL

Section 1. The Council shall meet on the day preceding the annual session and daily during the session, and at such other times as necessity may require, subject to the approval of the President. It shall meet on the last day of the annual session of the Association to organize and outline work for the ensuing year. It shall elect a chairman and clerk, who, in the absence of the Secretary of the Association, shall keep a record of its proceedings. It shall, through its chairman, make an annual report to the House of Delegates. It shall be the business body of the Association and attend to the business of the Association in the interim between meetings.

Sec. 2. Each Councilor shall be organizer and peacemaker for his district. He shall visit each county in his district at least once a year for the purpose of organizing component societies where none exist, for inquiring into the conditions of the profession, and for improving and increasing the zeal of the county societies and their members. He shall make an annual report of his work and of the condition of the profession of each county in his district at the annual session of the House of Delegates. The necessary traveling expenses incurred by such Councilor in the line of the duties herein imposed may be allowed by the House of Delegates on a properly itemized statement, but this shall not be construed to include his expense in attending the annual session of the Association. Each Councilor may appoint a Vice-Councilor to assist him in the performance of his duties in that district.

Sec. 3. The Council shall be the board of censors of the Association. It shall consider all questions involving the right and standing of members, whether in relation to other members, to the component societies, or to this Association. All questions of an ethical nature brought before the House of Delegates or the general meeting shall be referred to the Council without discussion. It shall hear and decide all questions of discipline affecting the conduct of members of a component society, on which an appeal is taken from the decision of an individual Councilor, or to which attention has been called by the Councilor or interested members. It shall hear and decide all questions affecting unethical conduct on the part of any members at any annual session, and its decision in all such matters shall be final when ratified by the Association.

Sec. 4. In sparsely settled sections it shall have authority to organize the physicians of two or more counties into societies, to be suitably designated so as to distinguish them from district societies, and these societies, when organized and chartered shall be entitled to all rights and privileges provided for component societies until such counties shall be organized separately.

Sec. 5. The Council shall provide for and superintend the publication and distribution of all proceedings, transactions and memoirs of the Association, and shall have authority to appoint such assistants

to the editor as it deems necessary. It shall manage and conduct the Journal of the Medical Association of Georgia, which is the organ of the Association, and all money paid into the treasury as dues shall be received as subscriptions to the Journal.

All money received by the Council and its agents, resulting from the discharge of the duties assigned to them, must be paid to the Secretary-Treasurer of the Association. As the Finance Committee it shall annually audit the accounts of the Secretary-Treasurer and other agents of this Association, and present a statement of the same in its annual report to the House of Delegates, which report shall also specify the character and cost of all the publications of the Association during the year, and the amount of all other property belonging to the Association under its control, with such suggestions as it may deem necessary. In the event of a vacancy in the office of the Secretary-Treasurer, the Council shall fill the vacancy until the next annual election.

Sec. 6. All reports on scientific subjects and all scientific discussions and papers heard before the Association, shall be referred to the Journal of the Medical Association of Georgia for publication. The editor, with the consent of the Councilor for the district in which he resides, may curtail or abstract papers or discussions, and the Council may return any paper to its author which it may not consider suitable for publication.

Sec. 7. All commercial exhibits during the annual sessions shall be within the control and direction of the Council.

Sec. 8. In the absence of a Councilor and Vice-Councilor the President is empowered to appoint a representative from the district as acting Councilor, who shall have full rights and power of a Councilor.

Sec. 9. Each Councilor shall render at every session a written report of each county in his district.

Sec. 10. Any member of the Council who fails to attend two regular successive sessions of the Council, or whose district does not show evidence of the performance of his duties during the year, unless he renders an acceptable excuse to the Council, is subject to have his position declared vacant by the President and a successor appointed by the President.

CHAPTER VI.—COMMITTEES

Section 1. The standing committees shall be as follows:

A Committee on Scientific Work.

A Committee on Public Policy and Legislation.

A Committee on Arrangements.

A Committee on Medical Defense, and such other committees as may be necessary.

Sec. 2. The Committee on Scientific Work shall consist of four members of which the Secretary-Treasurer shall be one. The other three members shall be appointed for terms of one, two, and three years, respectively. The vacancy which will occur each year by the expiration of the term of one member shall be filled by the President with an appointment for

three years. The member who has the shortest time to serve shall be Chairman. The committee shall determine the character and scope of the scientific proceedings of the Association for each session. Thirty days previous to each annual session it shall prepare and issue a program announcing the order in which papers, discussions and other business shall be presented.

This By-Law shall not prohibit the Committee on Scientific Work from inviting not more than two distinguished members of the national organization to deliver addresses or read papers at any annual meeting.

Sec. 3. The Committee on Public Policy and Legislation shall consist of three members and the President and Secretary, the Commissioner of Health of the State of Georgia, and a sub-committee of three members from each Councilor District appointed by the chairman when needed. It shall represent the Association in securing and enforcing legislation in the interest of public health and of scientific medicine. It shall keep in touch with professional and public opinion, shall endeavor to shape legislation so as to secure the best results for the whole people, and shall strive to organize professional influence so as to promote the general good of the community in local, state and national affairs and elections.

Sec. 4. The Committee on Arrangements shall be appointed by the component society in which the annual session is to be held. It shall provide suitable accommodations for the meeting places of the Association and of the House of Delegates and, of their respective committees, and shall have general charge of all arrangements. Its chairman shall report an outline of the arrangements to the Secretary-Treasurer for publication in the program, and shall make additional announcements during the session as occasion may require.

Sec. 5. The Committee on Medical Defense shall consist of five members, of whom the Chairman of the Council and the Secretary-Treasurer of the Association shall be members. The other members, one of whom shall act as Chairman of the Committee, shall be elected by the Council for a period of five years. Those elected at this meeting (April 19, 1916), shall serve one, three and five years, respectively.

It shall be the duty of the Committee on Medical defense to investigate and defend all damage suits against the Medical Association of Georgia; to investigate all claims of civil malpractice made against its members; to take full charge of such cases, which after investigation, they decide to be proper cases for defense; to defend all such cases in the courts of last resort, to furnish General Counsel and pay court cost usual to such litigation, and reasonable fees for local attorneys as shall be arranged by General Counsel. Provided that any member who has indemnity insurance shall have such insurance bear its portion of the expense. However, they shall not pay, or obligate the Medical Association of Georgia to pay any judgment rendered against any member upon the final deter-

mination of any case. They shall be empowered to contract with such agents or attorneys as they may deem necessary for the proper carrying out of this By-Law.

The assistance for defense, as herein provided, shall be available only to members of the Medical Association of Georgia in good standing. Any member who has not paid his annual dues by April 1st shall not be considered in good standing in the application of this By-Law.

Any member or members of the Association threatened with suit for civil malpractice shall immediately communicate with the Secretary of the Association and shall give full and complete information in reference to all the circumstances alleged in the complaint. The Secretary shall proceed immediately to investigate the circumstances reported and shall advise with the attorneys or agents employed by the Committee for this purpose. The member sued, or threatened with suit, shall be consulted and shall have the complete confidence of the Committee in all transactions connected with the investigation in question. The Committee shall have the authority to require of a constituent society or the president thereof, the appointment of a committee of investigation in any such case, and it may direct the committee so appointed to report to the Committee on Medical Defense and not to the society from which it was appointed.

The Committee on Medical Defense may also, at its discretion, arrange to prosecute illegal practitioners in the State of Georgia and assist in the enforcement of the Medical Practice Act of this State.

CHAPTER VII.—COUNTY SOCIETIES

Section 1. All county societies now in affiliation with this Association, or those which may hereafter be organized in the State, which have adopted principles of organization not in conflict with this Constitution and By-Laws, shall on application, receive a charter from and become a component part of this Association.

Sec. 2. As rapidly as can be done after the adoption of this Constitution and By-Laws, a medical society shall be organized in every county in the State in which no component society exists, and charter shall be issued thereto.

Sec. 3. Charters shall be issued only on approval of the Council, and shall be signed by the President and Secretary of this Association. The Association shall have authority to revoke the charter of any component society whose actions are in conflict with the letter or spirit of this Constitution and By-Laws.

Sec. 4. Only one component medical society shall be chartered in any county.

Sec. 5. Each county society shall judge of the qualifications of its own members, but as such societies are the only portals to this Association, every reputable and legally registered white physician who does not practice or claim to practice, nor lend his support to any exclusive system of medicine, shall be eligible to membership. Before a charter is issued

to any county society, full and ample notice and opportunity shall be given to every such physician in the county to become a member.

Sec. 6. No matter what the unethical conduct or discipline of the members of the county society may be, both plaintiff and defendant shall have the right to appeal to the Council whose decision shall be final when ratified by the Association.

Sec. 7. In hearing appeals the Council may admit oral or written evidence, as in its judgment will best and most fairly present the facts, but in case of every appeal, both as a board and as individual Councilors in district and county work, efforts at conciliation and compromise shall precede all such hearings.

Sec. 8. When a member in good standing in a component county society moves to another county in this state, he shall be given a written certificate of these facts by the secretary of his society, without cost, for transmission to the secretary of the society in the county to which he moves. Pending his acceptance or rejection by the society in the county to which he moves, such member shall be considered to be in good standing in the county society from which he was certified and in the Medical Association of Georgia to the end of the period for which his dues have been paid.

Sec. 9. A physician living on or near a county line may hold his membership in that county most convenient for him to attend, on permission of the component society in whose jurisdiction he resides.

Sec. 10. Each component society shall have general direction of the affairs of the profession in its county, and its influence shall be constantly exerted for bettering the scientific, moral and material condition of every physician in the county; and systematic efforts shall be made by each member, and by the society as a whole, to increase the membership until it embraces every qualified physician in the county.

Sec. 11. At some meeting in advance of the annual session of this Association, each county society shall elect a delegate or delegates to represent it in the House of Delegates of this Association, in the proportion of one delegate to each fifty members, or fraction thereof, and the Secretary of the society shall send a list of such delegates to the Secretary of this Association at least ten days before the annual session.

Sec. 12. The Secretary of each component society shall keep a roster of its members, and of the non-affiliated registered physicians of the county, in which shall be shown the full name, address, college and date of graduation, date of license to practice in this State, and such other information as may be deemed necessary. In keeping such roster the Secretary shall note any changes in the personnel of the profession by death, or by removal to or from the county, and in making his annual report he shall be certain to account for every physician who has lived in the county during the year.

Sec. 13. The Secretary of each component society shall forward its assessment, together with its roster of officers and members, list of delegates, and lists

of non-affiliated physicians of the county, to the Secretary of this Association each year, thirty days before the annual session.

Sec. 14. Any county society which fails to pay its assessment, or make the report required, on or before April 1 of each year, shall be held as suspended, and none of its members or delegates shall be permitted to participate in any of the business or proceedings of the Association, or of the House of Delegates, until such requirement has been met.

Sec. 15. The Secretary of each county society shall report to the Journal of the Medical Association of Georgia full minutes of each meeting and forward to it all scientific papers and discussions which the society shall consider worthy of publication.

CHAPTER VIII.—RULES AND ETHICS

Section 1. The deliberations of this Association shall be governed by parliamentary usage as contained in Roberts' Rules of Order, when not in conflict with this Constitution and By-Laws.

Sec. 2. All papers read before the Association shall become its property. Each paper shall be deposited with the Secretary when read, and if this is not done it shall not be published.

Sec. 3. The principles of medical ethics of the American Medical Association shall be those of this Association.

Sec. 4. Any member of this Association, on locating in a new place for practicing his profession may place his professional card, containing name, address, telephone number, and statement as to whether or not his practice will be limited to any particular class of disease, in the local paper for a period of not longer than one month. The placing of such card for this period of time shall not be considered unethical. The use of the word "specialist" by any member in connection with his name in any newspaper, telephone directory, or other public places, shall be considered unethical.

CHAPTER IX.—AMENDMENTS

These By-Laws may be amended at any annual session by a majority vote of the Association after the amendment has lain on the table for one day.

RESOLUTIONS, MEDICAL ASSOCIATION OF GEORGIA

1921

Resolved, That a member who sends in a title of a paper to be placed on the program and is not present to read the paper, shall pay the penalty of not having an opportunity to appear on the program for two years, unless he presents an excuse acceptable to the Committee on Scientific Work.

1922

Be it Resolved, That the House of Delegates recommend that the Committee on Scientific Work make available on the program of the State Association space for two papers from each Councilor district; that a definite time be assigned for reading and discussion of each of these papers, and they be given

precedence over all other business. The said papers are to be selected by the Committee on Scientific Work, and, in case a writer does not respond when his name is called, some paper will be substituted and the schedule not deranged. The President ruled that this resolution is only a recommendation and not a law.

1928

Resolved, That the delegates to the A. M. A. elected at this and succeeding meetings of the Medical Association of Georgia be installed January 1st, following their election, and that their term of service run for two years thereafter. And be it further

Resolved, That our delegates be authorized to attend the regular and any called meeting of the House of Delegates of the American Medical Association during the term to which they are elected.

1929

Resolved, That the House of Delegates approve the increase of dues to \$7.00 per capita per annum.

Resolved, That the House of Delegates adopt the report of the Council authorizing the Committee on Public Policy and Legislation to spend the necessary amount of money to carry on its work.

Resolved, That in order to expedite the business of the House of Delegates, all reports of special and regular committees of the Association involving matters of public policy, legislation or appropriation of the funds of the Association be submitted in writing to the Secretary of the Association a sufficient time in advance of the regular annual session, about March 15th, to permit of the publication of said recommendations either in the official program prior to the session or in a special circular that shall be mailed to the constituent societies, in order that the delegates may be advised of the proposed changes.

1933

Resolved, That the House of Delegates approve the reduction of dues to \$6.00 per capita for the year 1934.

1934

Resolved, That the House of Delegates set the amount of dues at \$6.00 per capita for the year 1935.

CONSTITUTION—PROPOSED AMENDMENT ARTICLE IX. SECTION 3.—OFFICERS

It is proposed to change the first sentence of Article IX, Section 3, of the Constitution which reads as follows: "The officers of this Association shall be elected by ballot at 12:00 o'clock noon on the third day of the annual session" by substituting therefor the following sentence: "The officers of this Association shall be elected by ballot at 3:00 o'clock in the afternoon of the second day of the annual session." The remainder of Section 3, Article IX, of the Constitution to remain as it now reads in reference to the election of officers of the Association and delegates to the American Medical Association.

BY-LAWS—PROPOSED AMENDMENT TO CHAPTER VI, SECTION 2—COMMITTEES

It is proposed to amend Chapter VI, Section 2, of

the By-Laws by adding the words: "and shall limit the meetings to two days" after the word session on the eleventh line. When so amended the sentence beginning on the ninth line shall read as follows: "The Committee shall determine the character and scope of the scientific proceedings of the Association for each session and shall limit the meetings to two days."

BY-LAWS—PROPOSED AMENDMENT TO
CHAPTER III, SECTION 1—HOUSE OF
DELEGATES

It is proposed to amend Chapter III, Section 1, of the By-Laws by changing the first sentence, which reads as follows: "The House of Delegates shall meet on the day preceding the first day of the annual session, the time to be fixed by the Committee on Scientific Work." When amended the sentence shall read as follows: "The House of Delegates shall meet on the first day of the annual session, the time to be fixed by the Committee on Scientific Work."

BY-LAWS—PROPOSED AMENDMENT TO
CHAPTER V, SECTION 1.—COUNCIL

It is proposed to amend Chapter V, Section 1, of the By-Laws by changing the first sentence which reads as follows: "The Council shall meet on the day preceding the annual session and daily during the session, and at such other times as necessity may require, subject to the approval of the President." When so amended the sentence shall read as follows: "The Council shall meet on the first day of the annual session and daily during the session, and at such other times as necessity may require, subject to the approval of the President."

THE SURGICAL ASSOCIATION
ATLANTA AND WEST POINT RAILROAD
COMPANY
WESTERN RAILWAY OF ALABAMA
GEORGIA RAILROAD

Fifteenth Annual Meeting

BILTMORE HOTEL, ATLANTA
MAY 7, 1935

To All Members:

The Fifteenth Annual Meeting of the Surgical Association of these railroads will be held at the Biltmore Hotel, Atlanta, on Tuesday, May 7, 1935, beginning promptly at 9:00 A.M.

All who attended the meeting in Augusta last year will recall a delightful time, and a very profitable meeting. The program for the coming meeting promises to be just as interesting and instructive and you cannot afford to miss it. The plan of a year ago will be followed very largely; both morning and afternoon sessions being devoted to discussion of interesting medical and surgical topics, and transaction

of regular business. A dinner at the Biltmore Hotel will feature the evening session—when we will be favored by addresses from prominent guests.

For the occasion our invited guests are Dr. W. McK. Craig, of the Surgical Department of the Mayo Clinic; Dr. Willis C. Campbell of Memphis, Tenn.; Dr. G. G. Dowdall, Chief Surgeon, Illinois Central System, Chicago, Ill.; and the President of the Alabama Medical Association. Mr. Chas. A. Wickersham, President-General Manager of these lines, has promised to try to be with us on this occasion.

The date, May 7th, is the first day of the session of the Medical Association of Georgia. They have no scientific program on the first day and therefore there will be no conflict. Members from Georgia will naturally be remaining over for the state meeting, and we suggest they write the Biltmore Hotel at once for reservations. Members from Alabama will find it necessary to remain over the night of May 7th in order to attend the dinner, and should also make reservations. Our members from Selma, Ala., could leave by the Southern Railway at 11:35 P.M., arrive at Selma about 9:30 the next morning.

We trust each and everyone of you will arrange to attend this meeting, program of which will be mailed to you, and assure you one of the most interesting and instructive days in your year's calendar.

In order that we may know how many to provide for at the evening dinner, will appreciate your advising of your intention.

MRS. R. E. COOPER, *Secretary.*

Atlanta, Georgia,
March 30, 1935.

DR. W. D. TRAVIS, *President.*

APPROVED:

DR. J. R. GARNER, *Chief Surgeon.*

Dr. J. R. Garner, Chief Surgeon of the Atlanta and West Point Railroad Company, The Western Railway of Alabama and the Georgia Railroad, announces that the Fifteenth Annual Meeting of the Surgical Association of those railroads will be held at the Biltmore Hotel, in Atlanta, Tuesday, May 7, 1935—the first day of the annual session of the Medical Association of Georgia.

Officers of the Surgical Association, 1934-1935, are:

President—Dr. W. D. Travis, Covington.

Vice-President—Dr. Ed. H. Greene, Atlanta.

Secretary-Treasurer—Mrs. R. E. Cooper, Atlanta.

The Executive Board is composed of:

Dr. J. R. Garner, Atlanta, Chairman.

Dr. Richard Binion, Milledgeville.

Dr. V. G. Williams, Grantville.

Dr. Dan Y. Sage, Atlanta.

The President and Vice-President are ex-officio members.

The coming meeting promises to be one of the most interesting in the Association's history. There will be a dinner at the Biltmore Hotel in the eve-

(Continued on Page 159)

WOMAN'S AUXILIARY

OFFICERS

President—Mrs. J. E. Penland, Waycross.

President-Elect—Mrs. E. R. Harris, Winder.

First Vice-President—Mrs. Ralph H. Chaney, Augusta.

Second Vice-President—Mrs. J. M. Barnett, Albany.

Third Vice-President—Mrs. G. Hugo Johnson, Savannah.

Recording Secretary—Mrs. Warren A. Coleman, Eastman.

Corresponding Secretary, Mrs. B. H. Minchew, Waycross.

Treasurer—Mrs. Chas. H. Richardson, Macon.

Parliamentarian—Mrs. Mather M. McCord, Rome.

Historian—Mrs. M. F. Haygood, Alto.

Chairman Public Relations—Mrs. Evert A. Banker, Jr., Atlanta.

Chairman Press and Publicity—Mrs. J. Bonar White, Atlanta.

Chairman Legislation—Mrs. Dan Y. Sage, Atlanta.

Chairman Students' Loan Fund—Mrs. Benjamin Bashinski, Macon

INVITATION

The Woman's Auxiliary to the Fulton County Medical Society cordially invites the Woman's Auxiliary to the Medical Association of Georgia to attend the eleventh annual convention in Atlanta, May 7, 8, 9, 10, 1935. Arrangements are being made to insure the success of this meeting and to provide pleasure and relaxation. The hostess Auxiliary will entertain at a progressive tea in three homes in different sections of Atlanta, on Wednesday from 5 to 7 P.M. On Thursday, there will be an afternoon garden tour and an evening banquet. On May 8th and 9th the second annual garden and flower show of Atlanta will take place, a short walking distance from the Biltmore Hotel; it will be open during day and evening with a small entrance fee. The wife of every member of the Medical Association of Georgia is invited to attend this convention and become a member of the Auxiliary.

MRS. H. H. ASKEW, *President*,
Woman's Auxiliary to the Fulton County
Medical Society.

CALL TO THE ELEVENTH ANNUAL CONVENTION OF THE AUXILIARY

The eleventh annual convention of the Woman's Auxiliary to the Medical Association of Georgia is called to meet at the Biltmore Hotel, Atlanta, May 7, 8, 9, 10, 1935. Each county Auxiliary is requested to send its President, two delegates and two alternate delegates to represent it officially and every available wife and all members are invited to be present and enjoy the sessions, which will begin each day at 10:00 A.M. and close on time. Registration daily, beginning Tuesday, at Biltmore Hotel.

State Officers and Chairmen, District Managers, Past Presidents are asked to attend the Executive Board Pre-Convention meeting on Tuesday, May 7th, at 8:00 P.M.

On Wednesday the 8th, reports from

county Auxiliaries and District Managers, addresses of the President of the Medical Association of Georgia, the Past President of the A. M. A. Auxiliary, the President of the S. M. A. Auxiliary, a Health Film will be important features. On Thursday, the 9th, reports of officers and State Chairmen, addresses by the President-Elect of the Medical Association of Georgia, by the President-Elect of the Woman's Auxiliary to the A. M. A., reports from the A. M. A. and Southern Conventions and election of officers and installation of them with Mrs. Ernest R. Harris, of Winder, as President, will be of outstanding interest.

STUDENT LOAN FUND

It was at the state meeting in Augusta in May, 1929, that Doctor W. R. Dancy of Savannah, first brought the idea of a Student's Loan Fund to the attention of the Auxiliary. The idea, enthusiastically received, was soon put into the form of a resolution and was quickly adopted.

At the home of Mrs. Charles C. Harrold in Macon, a meeting was held on October 16, 1930, with Mrs. William Shearouse of Savannah, the first chairman, and members of her committee present to formulate feasible working plans, sound, logical rules and regulations to govern this new born activity of the Auxiliary.

During the year 1930, the Student's Educational Fund Committee, under the direction of Mrs. Shearouse, was in position to function admirably. Now, five years hence, let us review the accomplishments of this organization. What has been done with the Educational Fund? Is it worth while? Do you think it is worthy of your continued support?

In the short period of less than five years, nine young men have been enabled to complete their medical education in our state. The sum of \$2,585.00 has been loaned to date. Six of the students have already graduated, two will finish in June of this year and the other in June of next year. Two of these young doctors are practicing independently now and two are located as physicians in institutions. We have received \$442.00 in payments on loans.

It is our belief that the Student Loan Fund of our Auxiliary is genuinely worth while, but too hampered by limited funds to be as helpful as it should be. We do believe, however, that with the proper interest and cooperation of every Auxiliary in the State and with the interest and payments on previous loans now coming in, we should be able to build in a very few years, an enterprise that will be truly important and deserving of our efforts and of our pride. We ask of every Auxiliary its support. Let us have your contribution NOW.

MRS. BENJAMIN BASHINSKI, *Chairman*,
Student Loan Fund Committee.

REPORTS FROM COUNTIES

Educational material sent Bibb County Auxiliary was distributed advantageously before Christmas. Programs for self-education have included: Talk by Dr. Ridley on the urgent needs of the Macon Hospital and how the Auxiliary could help.

Medical Men Before the Time of Christ.

Dr. C. C. Harrold on Hospital Group Insurance.

Dr. H. C. Atkinson on Psychoneurosis.

Mrs. Percy Chestney, Motion Pictures and the Child.

Baldwin county held its March meeting in Milledgeville at the home of Mrs. Allen. Mrs. J. E. Penland was guest of honor.

Chatham county reports that Auxiliary material was distributed at one meeting of the Chatham County Parent-Teacher Council, and that speakers on health subjects have been sent by request to meetings of Parent-Teacher Associations through this Auxiliary.

Hart county has again the honor of reporting that through Mrs. J. I. Jenkins of Hartwell, nine classes of the Little Mothers' Helpers League are being organized and taught with considerable assistance from Mrs. Jenkins.

Fulton county has been enjoying excellent self-educational programs, too. Recently it has had:

Dr. Roy Kracke on "Dangerous Drugs and Their Relation to the Blood Diseases"; Dr. Amey Chappell on "History of Medicine as Related to Motherhood"; Dr. Allen H. Bunce on "Quackery."

This county served supper at the Academy of Medicine for two special meetings in February and March.

Richmond county has been cooperating with the Red Cross diphtheria educational and immunization campaign in Augusta, one of the three cities in the south receiving such wonderful assistance. The Auxiliary has been active in showing health films on diphtheria, its ravages, its prevention and control.

Washington county met in Sandersville on March 20th, at the home of Mrs. Wm. M. Cason.

The First District Medical Auxiliary met in Statesboro, March 20th, Mrs. Lee Howard, Manager, presided. Six counties were represented: Bulloch, Chatham, Evans, Candler, Jenkins, Toombs. Reports were given by district officers and chairmen and county Auxiliaries. Mrs. Howard urged prompt payment of dues, contribution to the Student Loan Fund, to the Health Film Library, acceptance of health chairmanships in other organizations and observance of Doctor's Day.

Dr. M. S. Pittman, President of South Georgia College for Women, and Mrs. A. B. Bultrill, Teacher in the College, gave delightful talks on "Education and Idealism." Mrs. L. A. DeLoach, spoke on "Importance of Prevention and Control of Tuberculosis. A message on organization was read from President-Elect of State Auxiliary, Mrs. E. R. Harris, and Mrs. Chas. Usher discussed plans for observance of Doctor's Day. After lunch, many doctors and members of the Auxiliary saw the health film, "Man Against Microbes."

The Nominating Committee for the Mid-Summer meeting was appointed as follows: Mrs. J. K. Quattlebaum, Mrs. W. R. Dancy, Mrs. A. J. Mooney.

The Ninth District Medical Auxiliary met at Toccoa, March 20th. The District Manager, Mrs. W. R. Garner, presided. Dr. C. L. Ayers brought greetings from the Medical Association of Georgia and introduced Dr. J. E. Paullin, President-Elect of the Association, who spoke on present transitions in medicine and some of the attendant dangers.

Habersham, Stephens, Cherokee, Pickens Auxiliaries reported cooperation with other organizations and distribution of educational material. Hall County Auxiliary equipped and gave an emergency kit to a rural school and sponsored a Saturday Morning Film Show, including a Health Film for children. Admission was canned goods and fruit for welfare workers. Mrs. J. H. Terrell was installed as District Manager.

WOMAN'S AUXILIARY TO

MEDICAL ASSOCIATION OF GEORGIA ELEVENTH ANNUAL CONVENTION

Biltmore Hotel, Atlanta
May 7, 8, 9, 10, 1935

OFFICERS AND COMMITTEES

Executive Board

President—Mrs. J. E. Penland, Waycross.

President-Elect—Mrs. E. R. Harris, Winder.

First Vice-President—Mrs. Ralph H. Chaney, Augusta.

Second Vice-President—Mrs. J. M. Barnett, Albany.

Third Vice-President—Mrs. Hugo Johnson, Savannah.

Recording Secretary—Mrs. Warren A. Coleman, Eastman.

Corresponding Secretary—Mrs. B. H. Minchew, Waycross.

Treasurer—Mrs. Charles H. Richardson, Macon.

Historian—Mrs. Marvin F. Haygood, Alto.
 Parliamentarian—Mrs. M. M. McCord, Rome.
 Past Presidents of State.

Charimen of Standing Committees

Organization—Mrs. E. R. Harris, Winder.
 Health Education—Mrs. Ralph Chaney, Augusta.
 Public Relations—Mrs. Evert A. Bancker, Jr., Atlanta.
 Hygeia—Mrs. J. M. Barnett, Albany.
 Scrap Book—Mrs. Hugo Johnson, Savannah.
 Health Films—Mrs. A. J. Mooney, Statesboro.
 Student Loan Fund—Mrs. Benjamin Bashinski, Macon.
 Legislation—Mrs. Dan Y. Sage, Atlanta.
 Press and Publicity—Mrs. J. Bonar White, Atlanta.

District Managers

First District—Mrs. Lee Howard, Savannah.
 Third District—Mrs. Herschel Smith, Americus.
 Fifth District—Mrs. Joseph Yampolsky, Atlanta.
 Sixth District—Mrs. Wm. M. Cason, Sandersville.
 Eighth District—Mrs. B. H. Minchew, Waycross.
 Ninth District—Mrs. J. H. Terrell, Toccoa.
 Tenth District—Mrs. D. M. Carter, Madison.

ATLANTA CONVENTION COMMITTEES

Headquarters: Atlanta Biltmore Hotel

President, Fulton County Medical Auxiliary
 Mrs. Dan Y. Sage, Atlanta

COMMITTEES

Arrangements

Mrs. H. H. Askew, Atlanta, Chairman.
 Mrs. Dan Y. Sage, Atlanta.

Entertainment

Mrs. Calhoun McDougall, Atlanta, Chairman.
 Mrs. Frank Boland, Atlanta.
 Mrs. L. G. Baggett, Atlanta.
 Mrs. John Funke, Atlanta.
 Mrs. Mason I. Lowance, Atlanta.
 Mrs. Marion T. Benson, Atlanta.
 Mrs. E. C. Thrash, Atlanta.

Credentials-Registration

Mrs. Warren A. Coleman, Eastman, State Chairman.
 Mrs. J. C. Blalock, Atlanta, Fulton County Chairman.
 Mrs. B. L. Shackelford, Atlanta.
 Mrs. Geo. H. Noble, Atlanta.
 Mrs. C. C. Aven, Atlanta.
 Mrs. Wm. A. Smith, Atlanta.
 Mrs. W. E. Barber, Atlanta.
 Mrs. Jas. J. Clark, Atlanta.
 Mrs. Geo. Fuller, Atlanta.
 Mrs. J. R. Childs, Atlanta.
 Mrs. W. E. Upchurch, Jr., Atlanta.

Publicity

Mrs. J. Bonar White, Atlanta, State Chairman.
 Mrs. Harry Rogers, Atlanta, Fulton County Chairman.

Transportation

Mrs. S. T. Brown, Atlanta, Chairman.
 Mrs. E. D. Shanks, Atlanta.
 Mrs. Jesse York, Atlanta.
 Mrs. L. C. Rouglin, Atlanta.
 Mrs. R. E. Newberry, Atlanta.
 Mrs. C. Mulkey West, Atlanta.
 Mrs. Allen Caldwell, Atlanta.
 Mrs. W. C. Waters, Atlanta.
 Mrs. A. O. Linch, Atlanta.
 Mrs. Spencer Kirkland, Atlanta.
 Mrs. C. A. Rhodes, Atlanta.

Hospitality

Mrs. C. E. Boynton, Atlanta, Chairman.
 Mrs. Allen H. Bunce, Atlanta.
 Mrs. Joseph Yampolsky, Atlanta.
 Mrs. W. A. Selman, Atlanta.
 Mrs. W. W. Anderson, Atlanta.
 Mrs. Olin S. Cofer, Atlanta.
 Mrs. Geo. M. Niles, Atlanta.
 Mrs. Marion C. Pruitt, Atlanta.

Health Film

Mrs. A. J. Mooney, Statesboro, State Chairman.
 Mrs. E. H. Greene, Atlanta, Fulton County Chairman.

Introduction of Officers and Honor Guests

Mrs. Jas. N. Brawner, Atlanta.

Time Keeper

Mrs. C. W. Roberts, Atlanta.

ATLANTA CONVENTION

Biltmore Hotel, Headquarters

TUESDAY, MAY 7

Registration

ENTERTAINMENTS

WEDNESDAY, MAY 8, 1:00 P.M.

Daylight Saving Time

Luncheon—Piedmont Driving Club

WEDNESDAY, MAY 8, 3:00 TO 5:00 P.M.

Daylight Saving Time

Tour of Gardens

THURSDAY, MAY 9, 4:00 TO 5:00 P.M.

Daylight Saving Time

Washington Seminary Festival

THURSDAY, MAY 9, 5:00 TO 7:00 P.M.

Daylight Saving Time

Tea—Dr. and Mrs. Jas. E. Paullin

THURSDAY, MAY 9, 8:00 TO 10:00 P.M.

Daylight Saving Time

Joint Banquet—Biltmore Hotel

THURSDAY, MAY 9, 10:00 TO 2:00

Dance—Biltmore Hotel

P R O G R A M

Daylight Saving Time

TUESDAY, MAY 7, 1935. 8:00 P.M.

Executive Board Meeting.

8:30 to 12:00 P.M.

Informal Reception and Dance
Pompeian Room—Biltmore Hotel

WEDNESDAY, MAY 8, 1935

10:00 A.M.

*Biltmore Hotel*Call to order by the President, Mrs. J. E. Penland,
Waycross.*Invocation**Welcome Address*Mrs. Dan Y. Sage, President,
Fulton County Auxiliary*Response to Address of Welcome*

Mrs. Hugo Johnson, Savannah

Introduction of Distinguished Guests.

Address"Some Observation of the Auxiliary During
the Past Year.Dr. Clarence L. Ayers, Toccoa,
President of the Medical Association of Georgia.*Address*Mrs. Allen H. Bunce, Atlanta
Past President of the Auxiliary of the American
Medical Association.*Address*Mrs. John Bonar White, Atlanta
President, Woman's Auxiliary to the
Southern Medical Association.Report of Entertainment Committee, Mrs. Cal-
houn, McDougall, Atlanta, Chairman.Rules Governing Convention Procedure, Mrs. M.
M. McCord, Rome, Parliamentarian.

Reading of Minutes.

Reports of District Managers.

Reports of County Presidents.

Report of Chairman of Executive Committee.

Report of Credentials Committee, Mrs. J. C. Bla-
lock, Atlanta, Chairman.

Appointment of Special Committees.

Showing of Health Film, Mrs. A. J. Mooney,
Statesboro.

WEDNESDAY, MAY 8, 1935

4:00 to 5:00 P.M.

May Day Festival, Washington Seminary

5:30 to 7:30

Progressive Tea

THURSDAY, MAY 9, 1935

Biltmore Hotel

10:00 A.M.

Call to order by the President, Mrs. J. E. Penland,
Waycross.*Invocation**Address of Welcome*

Mrs. H. H. Askew, Atlanta

Response to Address of Welcome

Mrs. Ralph H. Chaney, Augusta

Report of Advisory Committee to Woman's Auxil-
iary, Dr. B. H. Minchew, Waycross, Chairman.*Address*"The Obligation of the Medical Profession and
Allied Organization in a Diversified Health
Program."

Dr. Jas. E. Paullin, Atlanta.

President-Elect of the Medical Association of Georgia.

Reading of Minutes.

Report of President.

Report of Officers.

Report of Auditor.

Report of Meeting of the Woman's Auxiliary to
the A. M. A.Report of Meeting of the Woman's Auxiliary to
the S. M. A., Mrs. Ed. H. Greene, Atlanta.Report of Jane Todd Crawford Memorial, Mrs.
Eustace A. Allen, Atlanta, Chairman.Report of Chairman, Medical Research, Mrs. D.
N. Thompson, Elberton.

Report of Chairmen.

Report of Resolution Chairman.

Report of Courtesy Chairman.

Unfinished Business.

New Business.

Report of Nominating Committee.

Election of Officers.

Installation of President, Mrs. E. R. Harris,
Winder.

Introduction of Officers.

Announcement of New President.

Adjournment.

FRIDAY, MAY 10, 10:00 A.M.

Meeting of New Board.

RULES GOVERNING THE CONVENTION

Rule 1. To be entitled to the floor, a delegate is
requested to rise, address the Chair, give her name
and Auxiliary, and await recognition.Rule 2. No delegate shall speak more than twice
on the same subject, and debate shall be limited to
two minutes at a time for each speaker.Rule 3. Reports shall not be read from Auxiliaries
that have no delegates in the convention, but such
report shall be filed with the Secretary.Rule 4. All main motions or resolutions shall be
written, signed by the member offering same, and two
copies made, one to be sent to the Chairman of the
Resolutions Committee, and the other to the Re-
cording Secretary.

(Continued on Page 159)

GEORGIA DEPARTMENT OF PUBLIC HEALTH

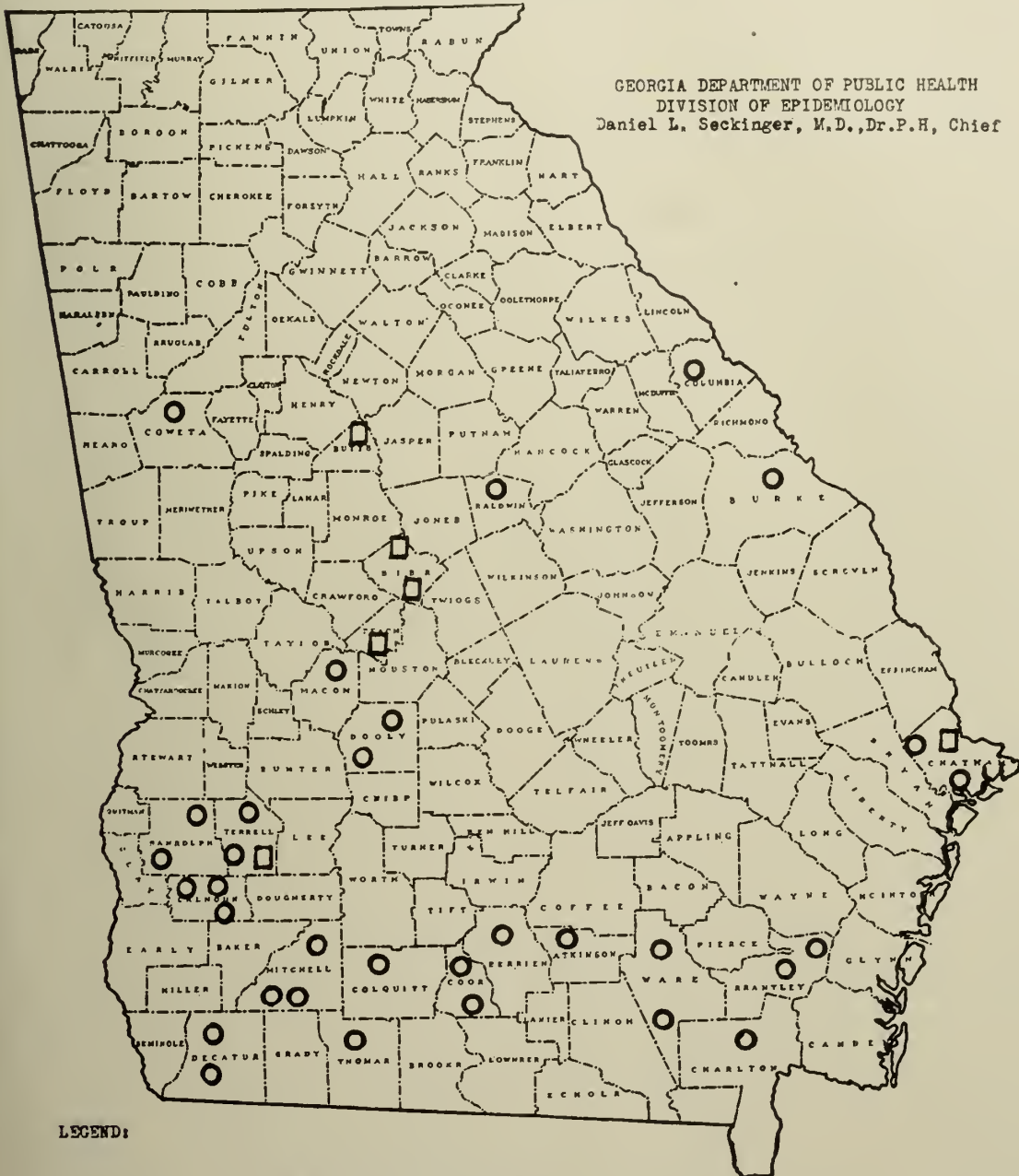
T. F. ABERCROMBIE, M.D., *Director*

SCREW WORM INFESTATION IN GEORGIA

The widespread outbreak of screw worm infestation among animals in South Georgia

during the summer and fall of 1933 focussed attention of physicians and the health officials of the state to the possibility of its occurrence in man. Before the season passed,

HUMAN SCREW WORM INFECTION, GEORGIA, 1934



actually three cases were reported from South Georgia in areas where its menace to livestock had become a major problem.

With regard to its mode of spread in man, the factors that govern its spread in animals is operable; namely, ova of the adult fly are deposited on a moist membranous surface, or in a wound of other open lesion. These hatch within six to eight hours (larval stage); at first the maggots are extremely small but active, and in a short while they commence to burrow into underlying tissues. While undergoing development in the wound the larvae tear the softer portions of the exposed flesh with their stout jaws, and although the larvae have no legs, by means of spines and humps on the body they are able to crawl and work their way into the tissues. Their growth is ordinarily extremely rapid so that after four or five days they may have gained a size of three-fourths inch long. At this stage they are mature and fall from the wound (in animals) and burrow in the ground, where they become pupae. The flies emerge from the pupae in from three to fourteen days. Thus, the entire life cycle may be completed in from one to four weeks, depending upon the temperature and humidity.

During the summer of 1934 screw worm infestation among animals spread rapidly throughout practically three-fourths of the state, so that by fall only a tair of North Georgia counties remained unaffected. Human cases also spread to new areas, concurrently with the disease in animals. In order to obtain some estimate of the number and distribution of human cases, in November, 1934, a questionnaire was sent to every physician in the state. Replies showed a total of 38 cases for the year, 1934. The distribution of these cases are shown on the spot map, which indicates that the concentration of the infestation in general corresponds to those areas where there is heaviest infestation in animals.

With reference to color, there were 23 colored, 14 white and one unknown. In the different age groups there were no infection reported in children, the youngest being 18 years of age. (See table showing age groups).

TABLE I—AGE GROUPS

Age Groups	Cases	Age Groups	Cases
15-24	1	55-64	5
25-34	4	65-74	6
35-44	4	75 and above	5
45-54	7	Age Unknown	6
TOTAL			38

Of the 38 cases reported 18, or 42 per cent of the total cases suffered with nasal infestation and 2, or 5 per cent, were reported as having eye infestation. Three, or 8 per cent of the infestations, occurred in chronic leg ulcers. One physician reported screw worm infestation of two carcinoma cases, resulting in death eight or ten days later. Another reported screw worm infestation in scar of amputated lower leg. Others reported infestations in wounds of the head and lower extremities, and there were two infestations of the genitalia, one of the penis and another of the vagina.

Six deaths due to this disease were reported: 2 due to infestations in carcinoma of the upper respiratory tract, 1 due to infestation in both legs and 1 in which site of lesion was not stated.

It appears that efforts now being employed to control the disease in animals should prove effective in the prevention of human cases, inasmuch as untreated animals are responsible for the development of the larvae, pupae and the adult fly, the control of which should greatly reduce animal and human infestation.

DANIEL L. SECKINGER, M.D., Dr. P.H.,
Chief, Division of Epidemiology.

PUBLIC HEALTH NURSING POLICY

A committee was appointed by Dr. C. L. Ayers, President of the Medical Association, to outline the Association's policy on the project of nursing that is being done under the direction of the Georgia Department of Public Health with federal funds. The final report of this committee was adopted August 1, 1934, and a program based on the policy inaugurated. The work of the nurses throughout the state has been thorough and satisfactory.

For the benefit of the members of the Medical Association of Georgia the following statement of activities is given:

Tuberculosis Service

The tuberculosis nurses have devoted most of their time to case finding and clinic organization. They were supplied with a list of all deaths which had occurred in Georgia from tuberculosis in the last five years, classified by counties, and also all patients who had been dismissed from the State Sanatorium at Alto. They visited the homes of these patients and made a tuberculin test on all contacts insofar as it was possible to do so. Positive reactors to this test were scheduled for an x-ray at the tuberculosis clinic.

During the year tuberculosis nurses organized 222 clinics at which 10,635 patients were examined. These clinics resulted in the discovery of 906 positive cases of tuberculosis and 1,036 suspicious cases, 5,803 visits were made to the homes of these patients in order to give instruction as to how to carry out the treatment recommended by the physician. Many other

visits were made to suspects and contacts and to the offices of physicians, relief administrators and others in behalf of patients, making a total of 22,507 visits made by the ten tuberculosis nurses during the year. The tuberculosis staff also completed 3,235 tuberculin tests. A complete statistical report is appended.

Child Hygiene Service

In the child hygiene program emphasis has been placed on the instruction and supervision of midwives, a check on birth registration, the health supervision of prospective mothers and young children, immunization against communicable diseases and a survey of crippled children. Assistance was also given to a special committee of the Medical Association of Georgia in making a study of maternal deaths.

Some of the high lights in the accomplishment of the child hygiene staff are as follows:

Approximately 16,000 visits in maternal service; 8,000 visits to infants under one year of age; 21,000 visits to preschool children. This staff made a total of 93,955 visits. 1,438 midwife meetings were held with a total attendance of 8,075.

The nurses gave approximately 151,000 inoculations against typhoid fever, 12,000 against diphtheria and 4,500 against smallpox.

Approximately 700 crippled children and young adults were located.

During the last four months of the year the child hygiene staff had under health supervision 2,601 prospective mothers, 5,177 infants under one year of age and 9,601 preschool children.

YEAR 1934 STATISTICAL REPORT CHILD HYGIENE SERVICE

Visits: Maternity Service

Antepartum	8,177
Postpartum	3,606
New Born	4,282

Health Supervision

Infant	8,195
Preschool	21,815
School	3,519

Morbidity

12,305

All other visits

Doctors	7,598
Midwives	1,826
In behalf of patients	12,237
Patients not seen	3,363
Miscellaneous	7,032

Total of visits made: 93,955.

Group Activities:

Health Conferences	195
Infants Examined by Doctor	188
Inspected by Nurse	831
Preschool Examined by Doctor	2,451
Inspected by Nurse	3,282
Other	2,472

Inoculations:

Typhoid	151,389
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Diphtheria	12,054
Smallpox	4,670
Other	783

Midwife Classes:

Number Organized	517
Number Meetings Held	1,438
Number Attending	8,075

"Mothers Helpers" Classes:

Number Organized	63
Number Meetings Held	96
Number Enrolled	1,311

Talks Given:

Adults	1,623
Children	1,077

Literature Distributed	8,323
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Specimens Collected:

Blood for Wassermann	417
Feces (exam. for hookworm)	5,305
Urine (Maternity service)	3,566
Sputum	21
Throat Culture	19

Analysis of Cases Under Care During September, October, November and December

Antepartum	2,601
Postpartum	1,677
New born	1,625
Infant	3,552
Preschool	9,601
School	1,183

Morbidity:

Typhoid	152
Malaria	340
Hookworm	1,829
Tuberculosis	237
Pellagra	285
Other	984
Orthopedic	96

Total

Grand Total of Cases Under Care

TUBERCULOSIS NURSING SERVICE

Visits to families

Visits to Individuals:

Visits to Cases of Tuberculosis	5,803
Visits to Suspects	2,684
Visits to Contacts	9,254

17,741 17,741

Visits to Physicians

Visits to Social Service Agencies

Miscellaneous Visits

22,507

Tuberculin test completed	3,235
Examination Secured at Clinics with	
Results: Original Examinations ..	8,388
Re-examinations	2,247
	<hr/>
	10,635

Positive Cases	906
Suspicious Cases	1,036
Negative	6,348

Cases Sent to Sanatorium	119
Contacts Whose Contact was Broken	690
Contacts Whose Contact was Partially Broken ..	414
Relief Secured for Families	249
Talks to Children	64
Talks to Adults	159
Sputum Specimens Sent to Laboratory	1,163
Blood for Wassermann Sent to Laboratory	49
Feces for Examination for Hookworm to Laboratory	124
Literature Distributed	1,786

ASSOCIATION OF RECORD LIBRARIANS OF AMERICA

The first meeting of the Georgia division of the Association of Record Librarians of America was held at Grady Hospital in Atlanta on February 3, 1934. Dr. Ponton of the American College of Surgeons presided. Monthly meetings at various Atlanta hospitals have been held regularly since that date.

The question has been frequently asked, "What is a Record Librarian?" One hospital superintendent answered tersely, "A Record Clerk with a fawncy name." Elizabeth Cooper of Orthopedic Hospital, Los Angeles, describes the ideal record librarian as a person who is "a combination of secretary, clerk, medical dictionary, encyclopedia, general information bureau, memory wizard, mind reader, slave driver and diplomat." The reader may take his choice of definitions, but will perhaps be interested in a brief outline of the inception and purpose of the organization.

The Association of Record Librarians of America was founded in Boston in October, 1928. Its work and ideals are well expressed in Article II of its constitution: "To elevate the standard of clinical records in hospitals, dispensaries and other distinctly medical institutions; to serve as a means of intercommunication among record librarians; to encourage the training of record librarians to the end that they may render intelligent service in that capacity, and thus assist in the promotion of efficiency in hospitals, dispensaries or other distinctly medical institutions."

There are now many state organizations, all of which have the same requirements for membership. Applicants must be at least twenty-one years of age and must have a minimum preliminary education equivalent to graduation from an accredited high school. In addition, they should have been graduated from a

school for record librarians or have been employed as record librarian for at least two out of the last five years in a hospital approved by the American College of Surgeons. Membership is established by examination. To fulfill their duties successfully record librarians must realize the three-fold function of the modern hospital—the care of the sick, the education of interns and nurses, and medical research—and adapt themselves to the need of the individual hospital. In small ones this will probably include book-keeping and secretarial work. The gauge of the value of a record room is the availability of its records. Record librarians must therefore act as the medical statistician for the hospital and record department and as a clearing house for information.

The Georgia division of the Association is gradually coming to be what its name implies—a statewide organization. Its present membership is as follows:

Mrs. E. A. Hamrick, Grady Hospital, Atlanta. President.

Miss Nannie Belle Phillips, Henrietta Egleston Hospital, Atlanta, Secretary-Treasurer.

Miss Frances Rutland, McCall Hospital, Rome, Reporter for the Bulletin.

Sister Anita, St. Joseph's Infirmary, Atlanta.

Miss Alice Bowdoin, Archbold Memorial Hospital, Thomasville.

Miss Vera Brooks, Emory University Hospital, Emory University.

Mrs. L. R. Goodyear, Georgia-Baptist Hospital, Atlanta.

Miss Mary L. Rodgers, Harbin Hospital, Rome.

Mrs. Ruth Shipp, Veteran Administration Hospital, Atlanta.

Mrs. Marguerite de Smidt, Crawford W. Long Hospital, Atlanta.

Miss Wilna Walton, Piedmont Hospital, Atlanta.

Mr. H. L. Wilson, Grady Hospital, Atlanta.

Miss Jessie M. Candlish, Superintendent, Henrietta Egleston Hospital, Atlanta, (honorary).

Dr. D. Henry Poer, Atlanta (honorary).

It is hoped that enrollment may be increased during the present year. Inquiries from hospitals in all sections of the state will be welcomed and may be addressed either to the president or to the secretary-treasurer.

The last meeting was held on the afternoon of March 14 at the McCall Hospital in Rome. All except two members were present. Mr. W. B. Collins, a prominent lawyer of Rome, gave a helpful address on "The Value of Records from a Legal Standpoint."

It is believed that these monthly meetings will do much to bring about in Georgia the ultimate ideal of the national organization of record librarians—assistance in "the promotion of efficiency in hospitals, dispensaries and other distinctly medical institutions."

MRS. E. A. HAMRICK.

Grady Hospital,
Atlanta.

BOOK REVIEWS

Cataract, Its Etiology and Treatment. By Clyde A. Clapp, M.D., F.A.C.S., Associate Professor of Ophthalmology, Johns Hopkins University; Professor of Ophthalmology, University of Maryland; Visiting Ophthalmologist, Johns Hopkins Hospital and Wilmer Institute; Ophthalmologist, University of Maryland. Pages, 254. Illustrated with 92 engravings. Published by Lea and Febiger, Philadelphia, 1934. Price \$4.00.

This book, the first of its kind to be published in English, is a most comprehensive study of the subject of cataract.

It goes much further into the subject than its title might denote for it covers the field from embryology to postoperative care.

As a reference book it is invaluable to all who practice ophthalmology and the extensive bibliography is a worthwhile and outstanding feature.

Dr. Clapp justly deserves our deep appreciation for the arduous work represented by this volume.

ZACH W. JACKSON, M.D.

REPORTS OF COMMITTEES OF THE WHITE HOUSE CONFERENCE ON CHILD HEALTH AND PROTECTION

Edited by the Chairmen of the Committees.

Each report has its individual price. The Century Company, New York and London.

The series of volumes containing reports of committees of the White House Conference on Child Health and Protection is as extensive as the elaborate organization of the conference would lead us to expect.

Large parts of some of the committee reports are taken up with tabulations of surveys. Some of the reports are readable throughout. Certain volumes are of especial interest to pediatricians, some to specialists in other fields, and others to general practitioners.

The series is too comprehensive to list all of the titles of the volumes here. One report for instance is devoted to the relationship of obstetric practice to child health, another of body mechanics.

Four volumes are contributed by the committee on growth and development, chairmaned by Kenneth D. Blackfan, Professor of Pediatrics at Harvard University Medical School, Boston. The first deals with the place of heredity in determining the individuals make up; the meaning of human types; the physiology of fatigue; the relation between climate and health; and the significance of different age levels.

The second is devoted to anatomical and physiological considerations: how the parts of the body grow, in themselves and in relation to each other.

The third is a thoroughgoing study of all the components of diet and an account of the intricate chemistry of the body. Sections on feeding habits of children are of interest to laymen as well as physicians.

The fourth of this group on growth and development is concerned with appraisalment of the physical

status and mental status of the child. Included are valuable sections on development of language, personality tests and discussions of problems centering on mentally superior and on mentally inferior children.

Much interesting material is to be found in the series as a whole but the reader is forced to select from the mass according to the trends of his interest. He has only to scan the names of the committee members and the lists of contributors to feel sure that the material in each volume is in accordance with the best knowledge of today. A tremendous mass of material has been gathered together, grouped, sifted, and correlated.

THOS. BOLLING GAY, M.D.

BOOKS RECEIVED

What You Should Know About Heart Disease, by Harold E. B. Pardee, M.D., Assistant Professor of Clinical Medicine, Cornell University Medical School; Associate Attending Physician, New York Hospital. Second Edition, thoroughly revised. Contains 127 pages. Publishers: Lea & Febiger, Washington Square, Philadelphia, Pennsylvania. Price \$1.50.

Useful Drugs—A list of drugs selected to supply the demand for a less extensive materia medica with a brief discussion of their actions, uses and dosage. Prepared under the direction and supervision of the Council on Pharmacy and Chemistry of the American Medical Association. Edited by Robert A. Hatcher, Ph.M., Cc.D., M.D., and Cary Eggleston, M.D. Ninth edition. Contains 203 pages. Publishers: American Medical Association, 535 North Dearborn Street, Chicago, Illinois.

A Textbook of Surgery for Students and Physicians by W. Wayne Babcock, A.M., M.D., LL.D., F. A. C. S., Professor of Surgery and Clinical Surgery in The Temple University; Surgeon to The Temple University Hospital and to the Philadelphia General Hospital; Chief of the Surgical Service, U. S. General Hospital, No. 6, 1917-1919. Second Edition, rewritten. Contains 1312 pages with 1,032 illustrations and 8 plates in colors. Publishers: W. B. Saunders Company, Philadelphia, Pennsylvania. Price \$10.00.

Physical Diagnosis by Warren P. Elmer, B.S., M.D., Associate Professor of Clinical Medicine, Washington University School of Medicine; Assistant Physician to Barnes Hospital; Physicians-in-Charge, Missouri Pacific Hospital; Consulting Physician to Jewish Hospital, St. Louis, and St. Louis County Hospital; and W. D. Rose, M.D., Late Associate Professor of Medicine in the University of Arkansas, Little Rock, Arkansas. Seventh Edition. Contains 919 pages. Publishers: The C. V. Mosby Company, 3523-25 Pine Boulevard, St. Louis, Mo. Price \$8.00.

Methods of Treatment by Logan Clendening, M.D., Clinical Professor of Medicine, Medical Department

of the University of Kansas; Attending Physician. Kansas City General Hospital; Physician to St. Luke's Hospital, Kansas City, Missouri. With chapters on special subjects by H. C. Anderson, M.D.; Ursulla Brunner, R.N.; J. B. Cowherd, M.D.; Paul Gempel, M.D.; E. H. Skinner, M.D.; E. R. DeWeese, M.D., and O. R. Withers, M.D. Fifth Edition. Contains 879 pages. Publishers: The C. V. Mosby Company, 3523-25 Pine Boulevard, St. Louis, Missouri. Price \$10.00.

Modern Motherhood—A Book of Information on Complete Maternity Care: Prenatal — Delivery — Aftercare, by Claude Edwin Heaton, M.D. Introduction by Hazel Corbin, Director of the Maternity Center Association. Contains 271 pages. Publishers: Farrar & Rhinehart, 508 West 26th Street, New York City. Price \$2.00.

COUNTIES REPORTING FOR 1935

Troup County Medical Society

The Troup County Medical Society announces the following officers for 1935:

President—C. W. Harvey, Hogansville.
Vice-President—Mark M. Byrd, West Point.
Secretary-Treasurer—Frank Amis, Hogansville.
Delegate—Enoch Callaway, LaGrange.
Alternate Delegate—E. C. Herman, LaGrange.

Macon County Medical Society

The Macon County Medical Society announces the following officers for 1935:

President—D. B. Frederick, Marshallville.
Vice-President—F. M. Mullino, Montezuma.
Secretary-Treasurer—Thomas M. Adams, Montezuma.

Delegate—Chas. A. Greer, Oglethorpe.
Alternate Delegate—D. B. Frederick, Marshallville.

Wayne County Medical Society

The Wayne County Medical Society announces the following officers for 1935:

President—T. G. Ritch, Jesup.
Vice-President—J. T. Colvin, Jesup.
Secretary-Treasurer—A. J. Gordon, Jesup.
Delegate—J. A. Leophart, Jesup.
Alternate Delegate—J. T. Colvin, Jesup.

Rabun County Medical Society

The Rabun County Medical Society announces the following officers for 1935:

President—J. C. Dover, Clayton.
Secretary-Treasurer—J. A. Green, Clayton.
Delegate—J. A. Green, Clayton.

Lamar County Medical Society

The Lamar County Medical Society announces the following officers for 1935:

President—D. W. Pritchett, Barnesville.
Secretary-Treasurer—S. B. Traylor, Barnesville.

Chattooga County Medical Society

The Chattooga County Medical Society announces the following officers for 1935:

President—Fred W. Hall, Summerville.
Vice-President—R. E. Talley, Trion.
Secretary-Treasurer—H. D. Brown, Summerville.
Delegate—M. Smith, Trion.
Censors—B. F. Shamblin, N. A. Funderburk and R. N. Little.

Spalding County Medical Society

The Spalding County Medical Society announces the following officers for 1935:

President—I. B. Howard, Williamson.
Vice-President—W. C. Miles, Griffin.
Secretary-Treasurer—Geo. L. Walker, Griffin.
Delegate—Marvin M. Head, Zebulon.
Alternate Delegate—H. J. Copeland, Griffin.
Censors—H. W. Copeland, I. B. Howard and A. H. Frye.

Worth County Medical Society

The Worth County Medical Society announces the following officers for 1935:

President—J. L. Tracy, Sr., Sylvester.
Vice-President—H. S. McCoy, Sylvester.
Secretary-Treasurer—Gordon S. Sumner, Poulan.
Delegate—Gordon S. Sumner, Poulan.

Laurens County Medical Society

The Laurens County Medical Society announces the following officers for 1935:

President—John J. Barton, Dublin.
Vice-President—Chas. L. Hicks, Dublin.
Secretary-Treasurer—Wm. C. Thompson, Dublin.

Walker County Medical Society

The Walker County Medical Society announces the following officers for 1935:

President—Fred H. Simonton, Chickamauga.
Vice-President—R. M. Coulter, LaFayette.
Secretary-Treasurer—R. Floyd Payne, LaFayette.

NEWS ITEMS

Dr. B. H. Minchew, Waycross, was elected President of the Railway Surgical Association of the Atlantic Coast Line Railroad at a recent meeting held in Jacksonville, Florida. Dr. Minchew is Ex-President of the Ware County Medical Society, Eighth District Medical Society, Waycross Chamber of Commerce and the Waycross Kiwanis Club.

Dr. Joe B. Peniston, Newnan, Chairman of the Committee on the Underprivileged Child of the Newnan Kiwanis Club, sponsored an address at the Club's weekly luncheon on March 13th by Miss Addison. Field Supervisor of Nursing for the Federal Emergency Relief Administration. Miss Addison complimented the members of the Kiwanis Club et al for

the excellent work which had been done in Coweta county.

The staff meeting of the Thomaston Hospital, Thomaston, was held on March 8th. The scientific program consisted of a Symposium on Pediatrics. *Some Observations on Congenital Syphilis*, Dr. M. Hines Roberts, Atlanta; *Chest Conditions in Children*, Dr. Wm. Willis Anderson, Atlanta; *Recent Research in Comparing the Immunization Against Whooping Cough by Matson and Sauer's Vaccine*, Dr. Benjamin Bashinski, Macon. Dr. Jno. D. Blackburn is medical director of the Thomaston Hospital and Secretary-Treasurer of the Upson County Medical Society.

The Glynn County Medical Society held its regular monthly meeting at Teacup Inn, near Darien, on March 7th. Dinner was served.

Dr. Kenneth McCullough and Dr. R. C. Walker, Waycross, entertained the members of the Ware County Medical Society at its meeting on March 7th at the Elk's Club. A shrimp dinner was served. Dr. W. F. Reavis, Waycross, read a paper on *Social Diseases*; Dr. H. G. Huey, Homerville; Dr. T. J. Ferrell, Dr. W. C. Hafford and Dr. Robert C. Walker, all of Waycross, discussed the paper.

The staff meeting of Grady Hospital, Atlanta, was held in the Interns' Dining Room on March 5th. Cases were reported as follows: *Rupture of Bladder with Recovery*, Dr. Major F. Fowler and Dr. W. W. Daniel; *Undetermined Type of Leukemia with Mortality*, Dr. Cyrus W. Strickler and Dr. Jack C. Norris; *Tumor Mass Left Upper Quadrant*, Dr. Earl Floyd, Dr. J. A. Hulsey and Dr. W. E. Mitchell; *Case for Diagnosis—Medical? Surgical?* Dr. Jeff L. Richardson and Dr. W. W. Daniel.

A called meeting of the Fulton County Medical Society was held at the Academy of Medicine, Atlanta, on March 14th. Dr. Arthur E. Hertzler, Kansas City, Mo., spoke on *The Changing Views on Goiter*; Dr. John F. Erdman, New York City, spoke on *Breast Tumors*.

The Fulton County Medical Society held its regular meeting at the Academy of Medicine, Atlanta, on March 21st. The scientific program consisted of a Symposium on Obstetrics; *Safety Measures for Mother and Child*, Dr. W. C. Goodpasture; *Hemorrhages in Obstetrics*, Dr. O. H. Matthews; *Management of Pre-Eclamptic Toxemia*, Dr. R. A. Bartholomew; *Management of Breech Labor—Moving Pictures*, Dr. C. B. Upshaw.

The Troup County Medical Society, at a recent meeting held in West Point, adopted the following resolutions: RESOLVED THAT we go on record

as opposing the fee proffered by the organization, Federal Emergency Relief Administration, for examining indigents and that it should not be done by outsiders. RESOLVED FURTHER that a copy of these resolutions be mailed the Secretary-Treasurer of the Medical Association of Georgia." Signed, Frank J. Amis, M.D., Hogansville, Secretary.

The Clinical Society of the Piedmont Hospital, Atlanta, met at the hospital on March 11th. Dr. Jas. E. Paullin, Atlanta, President-Elect of the Association, reported cases of *Branchopneumonia*, and *Atelectasis of Left Lung*.

The Southeastern Surgical Congress held its sixth annual assembly in the Mayflower Hotel, Jacksonville, Florida, March 11, 12, 13. Dr. Ben H. Clifton, Atlanta, read a paper entitled, *Tetany Following Thyroidectomy—Report of Two Cases with Four Years' Observation*; Dr. J. C. Patterson, Cuthbert, *Chronic Duodenal Obstruction*; Dr. Edgar G. Ballenger, Atlanta, *The Vacuum Treatment for Undescended Testes*; Dr. L. G. Baggett, Atlanta, *Uretero-Intestinal Anastomosis*.

Crawford W. Long Day was observed at the University of Georgia, Athens, on March 30th. Dr. Max Cutler, Chicago, spoke on *The Contributions of Crawford W. Long and His Contemporaries to American Medicine*.

The First District Medical Society met at Statesboro on March 20th. The scientific program consisted of titles for papers as follows: *Pleurisy with Effusion Following Trauma*, by Dr. R. L. Kennedy, Metter; *Appendicitis*, Dr. Charles Usher, Savannah; *Potassium Permanganate in the Treatment of Pneumonia—Case Report*, Dr. John W. Daniel, Sr., Savannah; *Syphilitic Aortitis*, Dr. S. P. Sanford, Savannah; *Blood Dyscrasias in Childhood*, Dr. Ruskin King, Savannah; *Treatment of Whooping Cough in Infancy and Childhood*, Dr. E. N. Gleaton, Savannah; *Hemorrhage from Peptic Ulcer*, Dr. J. H. Pinholster, Savannah; *Proposed Changes in Medical Practice*, Dr. Wm. H. Myers, Savannah; *Regurgitation Renal Colic*, Dr. S. E. Wilson, Savannah; *Social Insurance Act*, Dr. Wm. R. Dancy, Savannah.

The Tattnall County Medical Society met at Reidsville on March 13th.

The State Board of Health announces that in cooperation with the University of Georgia School of Medicine, arrangements have been perfected for the usual short extension courses for physicians. The subjects and names of the professors have not been selected. There will be six schools at central points in as many sections of the state. There will be two lectures and clinics each day for two days at each place. The school will be held on Thursdays and

Fridays. The first school will begin on April 18th at 2:00 P.M., local time. The schools will continue through May 3rd. Subjects proposed are on internal medicine, surgery and pediatrics. Physicians are urged to take clinic material and participate in discussions. A program of the meetings will be mailed to all physicians in counties contiguous to the centers. Two members of the staff of the State Department of Health will be on the program for one of the days. Watch for definite information as to personnel.

The Thomas County Medical Society met at the Archbold Memorial Hospital, Thomasville, on March 20th. Dr. H. M. Moore, Thomasville, read a paper entitled *Pharyngitis and Its Complications*; Dr. J. I. Palmer, Thomasville, *Psychosis in Pregnancy*. The Society adopted resolutions to oppose the Wagner Bill and notified our United States senators and congressmen.

Dr. S. A. Boland, formerly of Jefferson, has removed to Loganville and will continue the practice of medicine at the latter location.

The Georgia Medical Society, Savannah, met on March 26th. Dr. Frederick J. Cotton, Boston, Mass., read a paper on *Non-Malignant Tumors of Bone*; Dr. Everett L. Bishop, Atlanta, *Tumor of Bone*; Dr. Calvin B. Stewart, Atlanta, *Cancer of Lip and Cervix*. Refreshments were served.

The Ninth District Medical Society met at Toccoa on March 20th. Titles of papers on the scientific program were: *Spinal Anesthesia* by Dr. W. Bruce Schaefer, Toccoa; discussed by Dr. Grady N. Coker, Canton. *Partial Gastrectomy—A Method of Dealing with the Jejunum*, Dr. Stewart D. Brown, Royston; discussed by Dr. C. D. Whelchel, Gainesville, and Dr. Frank K. Boland, Atlanta. *Hypertension in Office Practice*, Dr. Hal M. Davison, Atlanta; discussed by Dr. L. G. Neal, Cleveland, and Dr. Allen H. Bunce, Atlanta.

The Spalding County Medical Society met at the R. F. Strickland & Son Memorial Hospital, Griffin, on March 19th. Dr. Wm. G. Hamm, Atlanta, read a paper on the *Treatment of Burns*.

The Coffee County Medical Society met at Stevens' Restaurant, Douglas, on March 26th. Dinner was served. Dr. Sage Harper, Wray, read a paper entitled *Serum Reactions and Serum Accidents*; Dr. I. S. Giddens, Willacoochee, *Recent Advances in the Analgesia of Obstetrics*. The next meeting of the Society will be held on April 30th. Dr. L. H. Shellhouse, Willacoochee, and Dr. G. W. Willis, Ocilla, will read scientific papers.

The staff meeting of St. Joseph's Infirmary, Atlanta, was held on March 26th. Cases were reported

as follows: *Congenital Pyloric Stenosis—24 Days Old When Operated On*, Dr. J. G. Riley, Atlanta; discussed by Dr. Lauren H. Goldsmith, Dr. John Turner, Atlanta. *Recurrent Melanoma—Two Cases—One Treated with Colloidal Lead Phosphate*, Dr. Wm. Perrin Nicolson, Atlanta; discussed by Dr. Jack Jones, Dr. John Funke, Lon Grove, Atlanta. *Partial Gastrectomy for Ulcer*, Dr. John W. Turner, Atlanta; discussed by Dr. Lon Grove, Atlanta.

Dr. and Mrs. Thomas H. Brabson, Cornelia, entertained the members of the Habersham County Medical Society and Woman's Auxiliary in their home on March 20th.

The Thomas County Medical Society held its regular meeting on March 20th. The business session consisted of a general discussion of bills which were pending in the General Assembly of Georgia and in Congress in reference to health insurance and the practice of medicine. The members of the Society are anxious to have as complete information as possible on legislation which from time to time may be proposed in this state and in congress in reference to or which may in any way affect the practice of medicine.

Dr. J. Kelvin Bleich announces his association with Dr. Herbert J. Rosenberg, suite 310 Doctors Building, 478 Peachtree Street, N.E., Atlanta, for the practice of medicine and surgery.

The Woman's Auxiliary to the Ware County Medical Society entertained the members of the Society at the Ware Hotel, Waycross, on March 29th. The banquet program consisted of *Greetings*, by Mrs. T. J. Ferrell, Waycross; vocal duet by Mrs. W. C. Parker and Mrs. J. E. Penland, Waycross; *The Observation of Doctors Day and Roll Call of the Ware County Physicians*, Mrs. R. C. Walker, Waycross; specialty song and dance, Miss Betty Rogers; accompanist, Mrs. Walter Hill Slater, both of Waycross; *Pioneer Medicine in Ware and Pierce Counties*, Dr. W. P. Williams, Blackshear. Mrs. J. E. Penland, Waycross, was Toastmaster.

Dr. A. Worth Hobby, Atlanta, has been granted a scholarship in the Trudeau School of Tuberculosis, Saranac Lake, N. Y. This is the only award made in the South this year. He will also receive two weeks post-graduate instruction at the Bellevue Hospital, New York City.

The Ware County Medical Society met at Bibb Tea Room, Waycross, on April 3rd. The regular business of the Society was transacted after which Rev. J. O. J. Taylor spoke on *Medical Work in the Orient*. Mr. Taylor was assistant to a medical missionary in the Orient for a number of years.

The Randolph County Medical Society met at the Patterson Hospital, Cuthbert, on April 4th. Dr. F. M. Martin, Shellman, read a paper entitled *The Use of a Few Common Drugs*; Dr. E. C. McCurdy, Shellman, *The Doctor Himself*.

The Fulton County Medical Society met at the Academy of Medicine, Atlanta, on April 4th. *Sound Picture on the Use of Insulin* by Eli Lilly and Company, Indianapolis, Indiana; case report, *Congenital Varicosity of the Left Great Saphenous Vein in Seven Year Old Child*, Dr. C. E. Rushin, Atlanta; *Doctors as Health Teachers*, Dr. W. W. Bauer, Chicago, Director, Bureau of Health and Public Instruction, American Medical Association; *Forced Spinal Drainage in Epidemic Encephalitis*, Dr. C. W. Strickler, Atlanta. The discussion was led by Dr. Richard B. Wilson, Dr. Lewis M. Gaines and Dr. R. H. Oppenheimer.

OBITUARY

DR. CHARLES WINN WILLIAMS, Cedartown; member; Birmingham Medical College, Birmingham, Ala., 1913; aged 45; died of influenza at his home on March 8, 1935. He was born and reared at White Plains, Ala. Dr. Williams began the practice of medicine at Clermont, Fla., thence in Rock Run, Ala., then moved to Cedartown in 1929 where he practiced until his death. He was a prominent physician and citizen, loved by hundreds of acquaintances. Dr. Williams served in the medical corps of the United States Army during the World War, was a member of the Polk County Medical Society, Seventh District Medical Society, American Medical Association, Kiwanis Club, Cherokee Gold Club, Masonic Lodge, Shrine, member and steward of the First Methodist church. Surviving him are five brothers: Dr. M. J. Williams and H. G. Williams, Oxford, Ala.; F. W., H. H. and Clarence Williams, Anniston, Ala.; two sisters, Mrs. M. Williamson, Centerpoint, Texas, and Miss Louise Williams, Anniston, Ala. Funeral services were conducted by Rev. Marvin Williams from the First Methodist church. Burial was in the city cemetery at White Plains, Alabama.

DR. WILLIAM R. EDWARDS, Roscoe, Newnan post-office; Southern Medical College, Atlanta, 1891; aged 75; died at his home after an illness of several weeks on March 4, 1935. He was born and reared at Newnan. Dr. Edwards practiced for more than thirty-five years. He was a prominent physician and public spirited citizen and member of the Methodist church. Surviving him are three sons, Hugh Edwards, Atlanta; Sam and Willis Edwards, Newnan; three daughters, Mrs. K. W. Starr and Mrs. John Doster, Newnan; and Miss Marguerite Edwards, Roscoe. Dr. C. C. Thomas conducted the funeral services from the home. Burial was in Oak Hill Cemetery.

DR. JOSEPH H. HALL, Norman Park; University of Georgia Medical Department, Augusta, 1889; aged 69; died at his home on March 1, 1935. He was born and reared in Colquitt county. Dr. Hall treated hundreds of patients without the slightest hope of ever receiving any compensation for his services. He served for several terms as Chairman of the Colquitt County Board of Commissioners, and was a member of the Methodist church. Rev. Geo. F. Clark conducted the funeral services from the Baptist church because of its large seating capacity. Interment was in the Moultrie cemetery.

DR. WILLIAM HUBERT AUSTIN, Griffin; member; Atlanta School of Medicine, Atlanta, 1910; aged 60; died at his home on March 15, 1935. He was born in New York City, graduated from the University of Maryland, and then began the study of medicine in Atlanta. Dr. Austin took post-graduate work in New York City and in Europe, then located in Griffin where he has been known as an outstanding practitioner in diseases of the eye, ear, nose and throat. He had hundreds of warm personal friends and did a great amount of charity practice. Dr. Austin was a member of the Spalding County Medical Society, American Medical Association, Masonic lodge, Shrine, Elks and Odd Fellows. Surviving him are his widow, two sons, J. L. and Wm. Herbert Austin; one daughter, Miss Ruth Austin. Funeral services were conducted from the home by Dr. J. B. Turner and Dr. J. E. Sammons. Interment was in Oak Hill Cemetery. The members of the Spalding County Medical Society and the dentists of Griffin formed an honorary escort.

RESOLUTION ON THE DEATH OF OUR BROTHER AND DOCTOR W. H. AUSTIN

WHEREAS: The all-wise Providence has seen fit to send an angel into our circle and remove from our midst Brother W. H. Austin, and

WHEREAS: Brother W. H. Austin has been a faithful member of Meridian Sun Lodge No. 26 F. & A. M. for many years, having filled many offices in the lodge faithfully and showing on many occasions his sympathetic and loyalty to the principles of our order and his passing leaves a void in the hearts of all of the brethren, and

WHEREAS: His loved ones have sustained an inestimable loss in a husband and father.

THEREFORE BE IT RESOLVED: In the death of Brother W. H. Austin, Meridian Sun Lodge No. 26 F. & A. M. has lost a faithful and honored member and we shall hold in remembrance our association here and commend his sterling qualities as a man, a doctor and a Mason;

BE IT FURTHER RESOLVED: That a page be dedicated to his memory in our records and that a copy of these resolutions be tendered to the bereaved fam-

ily of our deceased brother, their father and husband.

Respectfully and fraternally submitted.

MERIDIAN SUN LODGE NO. 26, F. & A. M.

James W. Martin, Worshipful Master.

Griffin, Georgia.

H. O. Kilgore, Secretary.

MODERN WEAPONS AID PHYSICIANS IN FIGHT ON TUBERCULOSIS

The treatment of tuberculosis must in all cases be based on diagnosis. Only a doctor can decide whether treatment is necessary and how it should be carried out.*

In the preceding paragraph is expressed the principle upon which the 1935 educational campaign of the National Tuberculosis Association and its affiliated state and local organizations is based. The campaign was launched April 1st. The importance of early diagnosis will be urged in order that treatment can be started promptly and with more prospect of a cure, or at least of arresting the disease.

Our knowledge of treatment has made tremendous strides and it is important that the public be more fully informed. To prevent misconceptions, facts should be presented on today's methods of treatment, such as collapse therapy, the importance of the sanatorium, and the social rehabilitation of the tuberculous patient. This is the basis of the slogan for this year's campaign, "Fight Tuberculosis With Modern Weapons."

An appreciation of scientific medicine is a major objective of health education and the modern treatment of tuberculosis inspires respect for scientific medicine. Fuller knowledge of the treatment of tuberculosis dispels much of the fear of the disease and prompts the person who may be worried about his health to go to his physician.

The posters used in the campaign suggest that medical science is a moving, living enterprise in step with the times. Attractive leaflets explain concisely and authoritatively the main aspects of the treatment of tuberculosis.

Tuberculosis through the ages has been surrounded by many deep-rooted fallacies. Much has been done to dispel these notions in the last fifty years and the knowledge gained of the disease has brought tuberculosis out of darkness. It is the purpose through this campaign to further inform the public and to urge the importance of obtaining scientific medical service.

Physicians can help to further this aim by co-operating with the tuberculosis societies and the other participating agencies and thus assure a wider acceptance of accurate and sound knowledge.

*This statement is being featured on the five pieces of literature that will be distributed during the campaign. Inquiries should be addressed to the Georgia Tuberculosis Association, 608 Chamber of Commerce Bldg., Atlanta, Ga.

ANNIVERSARY CELEBRATION

Jacobs Pharmacy Company, Atlanta's oldest and best-known drug organization, has just celebrated its 56th birthday, having been founded in 1879 by

the late Dr. Joseph Jacobs, at Five Points, on the site of the location of its present main store. From this humble beginning, the Jacobs Company has grown until now there are nineteen stores all over Atlanta.

The founder's principles of honesty, integrity, and sound ethical practices have been diligently adhered to by his son, Sinclair Jacobs, who is the present head of the organization.

IMMUNIZE NOW—STAMP OUT DIPHTHERIA

May Day—Child Health Day has become an established institution throughout the United States. It was inaugurated in 1924 by the American Child Health Association for the purpose of calling the attention of parents, communities, and the public in general to the need for measures to protect the health of children.

In 1928 the United States Congress passed a joint resolution designating May first as Child Health Day, and authorizing the President to issue a proclamation requesting national observance of the day. In 1929 the Conference of State and Provincial Health Authorities of North America appointed a May Day Committee. In 1932 this Committee took over from the American Child Health Association, with the continuing assistance of that Association, the responsibility for the annual observance of Child Health Day. In the states the work is under the direction of State Departments of Health.

Child Health Day celebrations are intended only to mark and emphasize either the inauguration or the culmination of year-round work for improvement of the health of children. The project for 1935 is diphtheria immunization. This was chosen because there has been little reduction since 1930 in the number of deaths from diphtheria throughout the country. While particular emphasis will be laid on immunization this year, it is not intended that the project be limited to 1935. On the contrary one of the chief objectives is to have the work continued year after year by the medical profession.

Immunize Now—Stamp Out Diphtheria, is the slogan.

The measures proposed are:

To immunize all children between the ages of six months and six years.

To make early immunization a routine practice by all physicians.

The majority of pediatricians do immunize the babies under their care during the first year of life. Physicians in general practice also should follow this procedure.

State Departments of Health and the unofficial organizations interested in children are calling the attention of parents and communities to the need for early diphtheria immunization. Each individual physician should be prepared to take care of the appli-

cations for immunization. Cooperative plans for this work should be made by the local medical societies and departments of health in all communities. When a local medical society has perfected plans for this phase of preventive medicine, there is no reason why it would not be possible to assume gradually other types until eventually preventive medicine forms an important part of the practice of all physicians.

This project offers opportunity for many medical societies and many physicians to assume their rightful leadership in the preventive medical work of their communities.

Descriptions of the plans of certain medical societies for community child health work will be found in:

The Experiments of the Medical Society of New Jersey in Furnishing Community Health Service. Section on "The Public Health Hour." p. 162.

LeRoy A. Wilkes, M.D., Executive Secretary, Medical Society of New Jersey. American Medical Association Bulletin, December, 1934.

The Children's Hour. Nassau Medical News, December, 1934. Reprinted in Westchester's Health, February 11, 1935. Published by the Westchester County Department of Health, White Plains, New York.

What the Detroit Plan Offers. Henry F. Vaughan, Dr. P.H., Health Commissioner, Detroit. Reprinted from the December, 1933, issue of Medical Economics.

PROGRAM WOMAN'S AUXILIARY

(Continued from Page 148)

Reports of delegates and District Managers are limited to three minutes.

Reports of chairmen of standing committees are limited to ten minutes.

No one is entitled to vote before she has registered.

Whispered conversations greatly retard the business of a meeting.

PLEASE BE PROMPT. Sessions will start at the hour indicated.

WHICH SIDE OF THE QUESTION ARE YOU ON?

Should mothers be given medical advice by neighbors, newspapers, manufacturers and other meddlers, gratuitously.

OR

Should the problem of infant feeding be kept where it belongs—in the hands of the medical profession?

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feeding that consistently, for three decades, has received universal pediatric recognition because it offers an adjustable formula for meeting the changing requirements of the individual baby as it progresses. Of all the carbohydrates available, no carbohydrate employed in this system of infant feeding enjoys so rich and enduring a background of authoritative clinical experience as Dextri-Maltose. Under the traditional Mead Policy, we re-affirm the fundamental principle that "Babies supervised by physicians are better babies." We continue to be voluntarily committed to the same side of this important medical economic question—as you.

THE SURGICAL ASSOCIATION

(Continued from Page 144)

ning, at which Dr. Willis C. Campbell of the Dr. Willis C. Campbell Clinic, Memphis, Tenn.; Dr. W. McK. Craig of the Surgical Department of the Mayo Clinic, Rochester, Minn., and Dr. G. G. Dowdall, Chief Surgeon of the Illinois Central System, Chicago, Ill., have been invited as guest speakers.

Dr. Campbell will speak on the—"Operative Measures for Ruptured and Injured Ligaments of the Knee-Joint." His talk will be illustrated with lantern slides and a motion picture.

The regular scientific program will consist of morning and afternoon sessions. The custom of the Association in not having formal papers read will be followed but members will introduce topics in an informal manner which will afterwards be opened to a general round-table discussion and will embrace the following topics:

"Injuries to the Hand and Fingers," Dr. W. D. Travis, Covington.

"Infections of the Hand," Dr. D. M. Carter, Madison.

"Syphilis as a Frequent Cause of Delayed Union in Fractures," Dr. C. O. Williams, West Point.

"Blood Pressure in Railway Employees," Dr. Eugene E. Murphey, Augusta.

"Fracture of the Femur, with Special Reference to the Use of the Roger Anderson Well Leg Counter Traction Splint," Dr. P. Y. Donald, Selma, Ala.

"The Post-Operative Treatment of Early Intestinal Obstruction and Paralytic Ileus," Dr. W. H. Clark, LaGrange.

"A Suggestion for the Prompt Relief of Post-Operative and Acute Inflammatory Acidosis," Dr. B. F. Riley, Jr., Thomson.

"The X-Ray in Railway Surgery," Dr. L. P. Holmes, Augusta.

"After Effects of Brain Injuries," Dr. Richard Binion, Milledgeville.

"The Importance of Detecting or Recognizing Minor Corneal Injuries," Dr. C. I. Bryans, Augusta.

"Fracture of the Os Calcis," Dr. H. M. Michel, Augusta.

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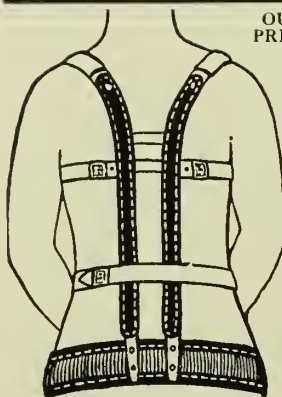


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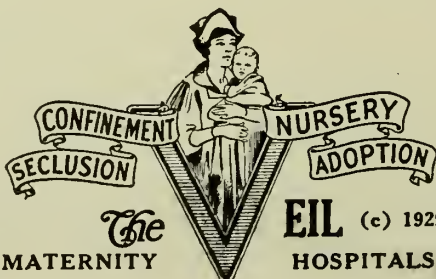
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THE JOURNAL OF THE MEDICAL ASSOCIATION OF GEORGIA

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NOTES ON THE HISTORY OF THE MEDICAL ASSOCIATION OF GEORGIA, 1920-1935*

ALLEN H. BUNCE, M.D.

Secretary-Treasurer, 1920-1935

Atlanta

No profession contributed more generously of her own to America's success in the World War than ours. No professional men found a more profound change from their accustomed mode of living and thinking on entering military service than we. No class of men were more needed or longer needed in demobilization. And yet many of us broadened our outlook by learning to do things differently and by coming in contact with physicians with different backgrounds from other parts of the country. Some of us were fired with ambition to learn more in post-graduate work. Some felt the practice built up over a period of years had been swept away and a new start had to be made. Others felt that broader fields offered conquest. The year 1920, although some were still in the Army, stands out as a landmark: it was the year from which we may date post-War medicine in Georgia.

It is interesting to note that there were 3,442 doctors in Georgia in 1920, and that there was a gradual decline to 2,811 in 1934. The passing of the proprietary medical schools had much to do with this decrease. However, the average physician in 1935 is better trained than the average of 1920—and good roads and better transportation facilities have enabled him to render better service.

In 1920, 35 per cent of the physicians in Georgia belonged to the State Association,

*Abstract. All figures used in reference to membership and hospitals are taken from the official records of the American Medical Association.

a much lower percentage than in the country at large. We may be proud that this percentage increased rapidly until in 1929 it equaled that of the United States. After that there was a fall, reaching the low water mark of 52 per cent in 1933, but in 1934, the percentage had climbed back to 60. If we exclude the 195 ineligible negro physicians, last year 64.5 per cent of the physicians in Georgia belonged to this Association, which is greater than that for the United States. May we hope to see the number approach 100 per cent, though unless human nature changes (that is, unless every physician proves himself worthy of the honor of belonging to the Association and each who is worthy feels it his duty to belong) we can scarcely hope to see all of the white doctors of the State enrolled. One hundred per cent enrollment, however, is not too high a standard for as early as 1920 Dr. C. K. Sharp reported as members every eligible physician in Tift County. Soon after that I established an Honor Roll of constituent societies on which would be placed the names of all counties having one hundred per cent membership as well as the name of the Secretary and the date on which it became one hundred per cent. In 1928 twenty-five counties, among them all those comprising the whole of the Third Congressional District of which Dr. G. Y. Moore was Councilor, belonged on this Honor Roll.

Badge of Service

At my suggestion a Badge of Service consisting of a button bearing the Seal of the Association was officially approved and presented for the first time in 1922 to Dr. E. C. Thrash our then President and to eighteen living ex-Presidents in recognition of the services they had rendered the Association. Since that time each retiring President has been so honored.



E. G. JONES, Atlanta
President, 1919-20

Next to common honesty, common sense is the most precious commodity in the practice of medicine.

The State Board of Health

In 1875, the Legislature passed an act creating a State Board of Health, but no appropriation was made for the continuation of this work in 1877 and it was abandoned. The second State Board of Health was organized in 1903, and began operation in 1904 in the basement of the Capitol with an appropriation of \$3,000, using a microscope and apparatus belonging to Dr. H. F. Harris, the secretary. In 1914, Doctor Harris resigned from public health work. In July, 1917, Dr. T. F. Abercrombie was elected Secretary. At this time, the appropriation had been increased to \$30,500.

During 1920, a substantial increase occurred in the work of the State Board of Health, the department having met demands far exceeding any previous year. In the laboratory, 22,420 examinations were made.



E. T. COLEMAN, Graymount
President, 1920-21

The socialization of medicine and the breaking down of the spirit of medical independence is a pending evil.

The division of sanitary engineering was organized and 106 inspections made. Inspections of water plants showed that a large number were in bad condition, and most of the surface supplies were found to be potentially dangerous. Malaria control operations were carried on in Albany, Thomasville and Savannah. During this year, the chief cause of death was influenza with 2,581 deaths. Tuberculosis was second with 2,543 deaths. Venereal disease clinics were conducted in Atlanta, Augusta, Brunswick, Macon, Rome and Savannah. The division of child hygiene was also organized and made an effective beginning. Five counties were added to the list of 14 operating under the Ellis Health Law.

In 1922, trachoma constituted a pressing problem, and clinics were conducted in south-



E. C. THRASH, Atlanta
President, 1921-22

Whatever attainments a doctor may possess, he has not done his duty until he goes among his comrades, gives them the benefit of what he has accomplished and learns of them what they have to give.

west Georgia. The Healthmobile, a gift from the Phi Mu sorority, was put into operation on a program of maternity and child hygiene work. In 1924, \$5,000 was appropriated to match Federal funds under the Maternity and Infancy Act, and 27 nurses were employed for this work. The Medical Association of Georgia passed a resolution recommending that the State Board of Health take up the instruction of midwives in Georgia, which work was begun. A mouth hygiene unit was also established in cooperation with the United States Public Health Service.

In 1924, the death rate from pellagra in Georgia was 11.0 per 100,000 population. In 1929, this rate had alarmingly increased to 30.0, at which time the Laboratory be-



J. M. SMITH, Valdosta
President, 1922-23

Genius has not yet fashioned a fitting memorial to that man, whether renowned or obscure, who holds in sacred trust his every talent for the service of mankind.

gan the distribution of brewer's yeast as an adjunct in the prevention and treatment of pellagra. Since that time, in the face of economic depression, the death rate from pellagra has continually decreased.

In the spring of 1922, Georgia was finally admitted to the Registration Area. However, in June, 1925, the payment of local registrar's fees for the collection of birth and death records was declared unconstitutional by the Supreme Court. The State remained in the Registration Area for deaths but was dropped as regards births. The Medical Association of Georgia in 1927 helped to secure the passage of a constitutional amendment to make effective the law as to registering births. This was submitted to popular vote and was carried by a very large majority. Soon after-



J. W. DANIEL, Savannah
President, 1923-24

Let it be known that we stand for better government, better health, better educational facilities, and that we are ready and willing to cooperate with all who are working along these lines.



J. O. ELROD, Forsyth
President, 1924-25

The only way for us to have our membership one hundred per cent, is for every loyal member to see to it that every eligible physician in his county is a member of his county society.

ward Georgia was readmitted to the Registration Area for births.

The amount of work in the laboratory doubled in the period 1920-1930 with the same staff of workers. The increasing appreciation of public health on the part of the medical profession and the general public and their cooperation with the department has made possible much of the work accomplished.

In the ten year period from 1922 to 1932 the death rate per 100,000 showed a marked decrease in the controllable diseases, as was shown in the following figures:

	1922	1932
Tuberculosis (all forms).....	92.6	63.7
Typhoid and Paratyphoid Fever.....	25.5	12.9
Malaria	21.2	10.6
Diphtheria	12.9	4.8

Tetanus	2.4	1.0
Smallpox	0.8	0.0
Rabies	0.3	0.1

The figures show what was being accomplished through the cooperation of the State Board of Health and the Medical Association of Georgia, although the State was spending, on an average, only 3 cents per head on such activities, or 20 per cent as much as it was spending on the health of its livestock. However, in spite of this remarkable record with the scanty funds available, the State Board of Health was abolished by the Reorganization Act of the General Assembly in 1930 over the strenuous objections of the Medical Association of Georgia, and the act was signed by Governor R. B. Russell, Jr., against the urgent advice of many physicians. When Mr. Eugene Tal-



F. K. BOLAND, Atlanta
President, 1925-26

In striving to master the art and science of medicine let us not overlook its profound human side. If we cannot bring healing into a sickroom may we bring confidence and cheer.

madge was campaigning for Governor, he promised that, if elected, he would restore the State Board of Health. The plan sponsored by the Medical Association of Georgia provided for a board of fourteen members, ten to be selected from a list submitted by the Association, two to be dentists nominated by their association and two to be pharmacists, nominated by their association. A majority must at all times be physicians appointed from lists nominated by the Medical Association of Georgia. The first board under the new law was appointed in staggered terms, so that no subsequent Governor could appoint a majority and so that there might be a continuity of policy. It is believed that this law is a model for the United States.

The State Tuberculosis Sanatorium at Alto was placed under the supervision and control



V. O. HARVARD, Arabi
President, 1926-27

In our professional work, let us ever be awake and alert to bring to the bedside of the sufferer the best that our thought and study can supply by keeping in close touch with every sane and helpful advancement.

of the State Board of Health and remained until 1932. The present main infirmary was constructed in 1926, and later a Children's Cottage, and school building were added to the institution. Approximately 250 patients were being treated when it was turned over to the Board of Control in 1932.

The Georgia Training School for Mental Defectives was placed under control of the State Board of Health in 1921 when it was established, and remained until 1932. During 1922, 42 patients were treated at the school, and within a few years the waiting list had grown to 880. Additional property was purchased for the school and 228 patients were being treated when the school was turned over to the Board of Control in 1932.



W. A. MULHERIN, Augusta
President, 1927-28

Brotherly love directed to brother practitioners, as well as to patients, plus efficient service, especially along the preventive line, constitutes the ideal practice of medicine.

Dougherty County instituted the first county-wide malaria control program, largely through the efforts of the local profession. In other sections exceptional progress has been made in malaria control through drainage by convicts and relief labor. Approximately 1,500 miles of ditches for malaria drainage have been dug since November, 1933. About 15,000 sanitary privies have been constructed with FERA labor. Approximately 45 per cent of the population of the State is afforded health protection by local health departments. However, there are only about 30 counties continually operating health units in Georgia.

In 1932, the appropriation for public health was reduced considerably and since that time additional cuts have been made. During 1934, the Department of Health con-



C. K. SHARP, ARLINGTON
President, 1928-29

Let each one of us take courage and look to the future with uplifted faces and do our bit toward placing our beloved profession in its rightful place.

ducted a statewide public health program through aid received from the Georgia Emergency Relief Administration, the United States Public Health Service, and the Rockefeller Foundation. These agencies contributed funds and furnished labor with which various health projects have been carried out. For the first time, every county in Georgia has been given public health nursing service, tuberculosis diagnostic x-ray clinics, and sanitary engineering service for the prevention of malaria, typhoid fever, dysentery and hookworm disease. It is hoped that the Department will be able to continue the present public health program as a permanent organization for the prevention of disease in Georgia. Most of the counties are unable to pay for local health protection, and the State must assume the cost of this service if it is to be continued after Federal aid is withdrawn.



W. R. DANCY, Savannah
President, 1929-30

Organized medicine combines the best thought and finest principles of the foremost minds of the profession, developed for the greatest benefit to its entire membership.



G. Y. MOORE, Cuthbert
President, 1930-31

Dream your dream of what might be, if you would do your best, follow that dream.

The Association and the Legislature

While we were all slumbering peacefully at the switch, the General Assembly in 1920 passed the Workmen's Compensation Act. While most of us now believe that this law marked a step in the right direction, and it is sufficient to handle the majority of industrial accidents without injustice to the physician or to the hospital, it is not a just law. It provides a maximum of \$100 to cover the professional charges of the physician and the total hospital expenses, including tetanus antitoxin and all drugs. In cases of a fractured femur, for example, \$100 is of course inadequate to cover the legitimate bill of either the physician or of the hospital. Fortunately, some of the insurance companies have voluntarily seen to it that neither the physician nor hospital actually lost money. Repeated attempts, however, to have the law amended to give both physician and hospital

full legal protection in such cases have so far met with failure.

In this connection, I must quote a paragraph from an editorial by the late Dr. George R. White, of Savannah, that appeared in the JOURNAL for January, 1921. It shows rare foresight:

"This law is important as marking in this state the first step in the socialization of the medical profession. The next step is to secure compulsory health insurance for the workman and his family followed by old age pensions. We will probably hear more of these matters in Georgia in the near future."

The physicians of this state have not succeeded in selling themselves to the law-makers. We did delay the bill which permitted chiropractors to practice legally in Georgia, but our repeated attempts to get through a Basic Science Law requiring anyone who wished to practice the healing art by whatever name he might call it, to prove that



A. G. FORT, Atlanta
President, 1931-32

When cities, states, national and charitable organizations continuously offer free treatment to millions they do so at the expense of not only the physician, but also of those able to pay.

he had some knowledge of anatomy, histology, biochemistry and physiology, have resulted in dismal failure.

During the recent session of the General Assembly we did accomplish the defeat of a bill to permit a high school graduate to take three years in a medical college and then to enter practice, and we assisted in preventing the discontinuance of the Medical Department of the University of Georgia. We did secure, too, the passage of a sterilization bill, such as obtains in Virginia, California, and other states, only to have it vetoed by Governor Talmadge. Our success in reestablishing the State Board of Health is dealt with in another paragraph. We have not yet been able to convince the lawmakers that public health is to a large



M. M. HEAD, Zebulon
President, 1932-33

No organization can be stronger than its component units and certainly the county medical society is the basic unit of medical organization in the United States.

extent purchasable, that to spend as much on the health of Georgia's citizen as on the health of her farm animals would be little enough.

History of Medicine in Georgia

At the Athens meeting in 1927 it was decided to have a History of Medicine in Georgia prepared. Committees and Sub-Committees were appointed, material gathered and compiled, and money collected. It is a source of regret that this work has not yet been completed and published. From some sections of the state no historical information whatever has been received. And, most important, the present manuscript is anything but readable. The Committee feels that before anything is published it should represent comprehensive and authoritative research, and, above all, it should be entertaining to read. When a man is found who can complete the



C. H. RICHARDSON, Macon
President, 1933-34

We still insist that the practice of medicine is inherently a personal responsibility, and we will do all in our power to retain the personal relationship of physician and patient.

work with intelligence, charm and thoroughness, the book will be published promptly. In the meantime, the \$1,200 that has been already collected is being kept in a special trust fund.

Memorials

In 1902, the Legislature voted to place the statues of Crawford W. Long and of Alexander H. Stephens in the Hall of Fame of the National Capitol to represent Georgia, and they let the matter drop there. At the annual convention of the Medical Association of Georgia nineteen years later, Dr. Garnett W. Quillian moved that the Association petition the Legislature to appropriate funds to carry out this act. A committee was appointed, which finally concluded to pool its efforts with those of the Crawford W. Long Me-



C. L. AYERS, Toccoa
President, 1934-35

In medicine, there should be an adequate balance between specialized knowledge and general information.

morial Association. As a result of the joint efforts of this organization and of the Medical Association of Georgia, the long awaited statue was completed by John Massey Rhind in 1926. It was unveiled in the Capitol in Washington on March 30 by Mrs. Frances M. Taylor and Miss Emma Long, daughters of Dr. Long. Dr. Frank K. Boland, President of both the Medical Association of Georgia and of the Crawford W. Long Memorial Association, presided.

Long was further honored by the establishment of the Crawford W. Long Memorial Prize in 1926. This handsome gold medal, donated anonymously, is for the best original research done by a member of the Association and presented before an annual session. The Long Prize for 1927 was awarded to Dr. M. Hines Roberts for "Some Observations in Pigment Metabolism in the New Born": in



J. E. PAULLIN, Atlanta
President-Elect, 1934-35

1930, to Dr. H. M. Tolleson for "Treatment of Hemoglobinuric Fever," and in 1932 to Dr. G. Lombard Kelly for "The Effects of Injections of Ovarian Follicular and Anterior Pituitary Hormones on Conception and Pregnancy in Laboratory Animals." No paper submitted in other years was considered worthy of the award.

Georgia is not unmindful of other famous sons. In 1922 the Association assisted in erecting a monument to Robert Battey in his native city at the time of the convention in Rome. In 1924 the Abner Wellborn Calhoun Library was presented by his family to the Emory University School of Medicine. This splendid library has not only been of untold benefit and inspiration to physicians living near the University, but through its "Package Service" has extended these benefits to doctors in the far corners of the state. Dr. Calhoun was also honored by the Association in the establishment of a Lectureship in his memory. In 1928, the first of these

lectures was given by Dr. George E. de Schweinitz, of Philadelphia; others have been delivered by Dr. William S. Baer, of Baltimore; Dr. Frank H. Lahey, of Boston; Dr. J. B. Herrick, of Chicago; Dr. Dean Lewis, of Baltimore; Dr. Merrill C. Sosman, of Boston, and Dr. Emil Novak, of Baltimore. The Calhoun Lecturer has been in addition to the two distinguished guest-speakers that the Association has had for many years.

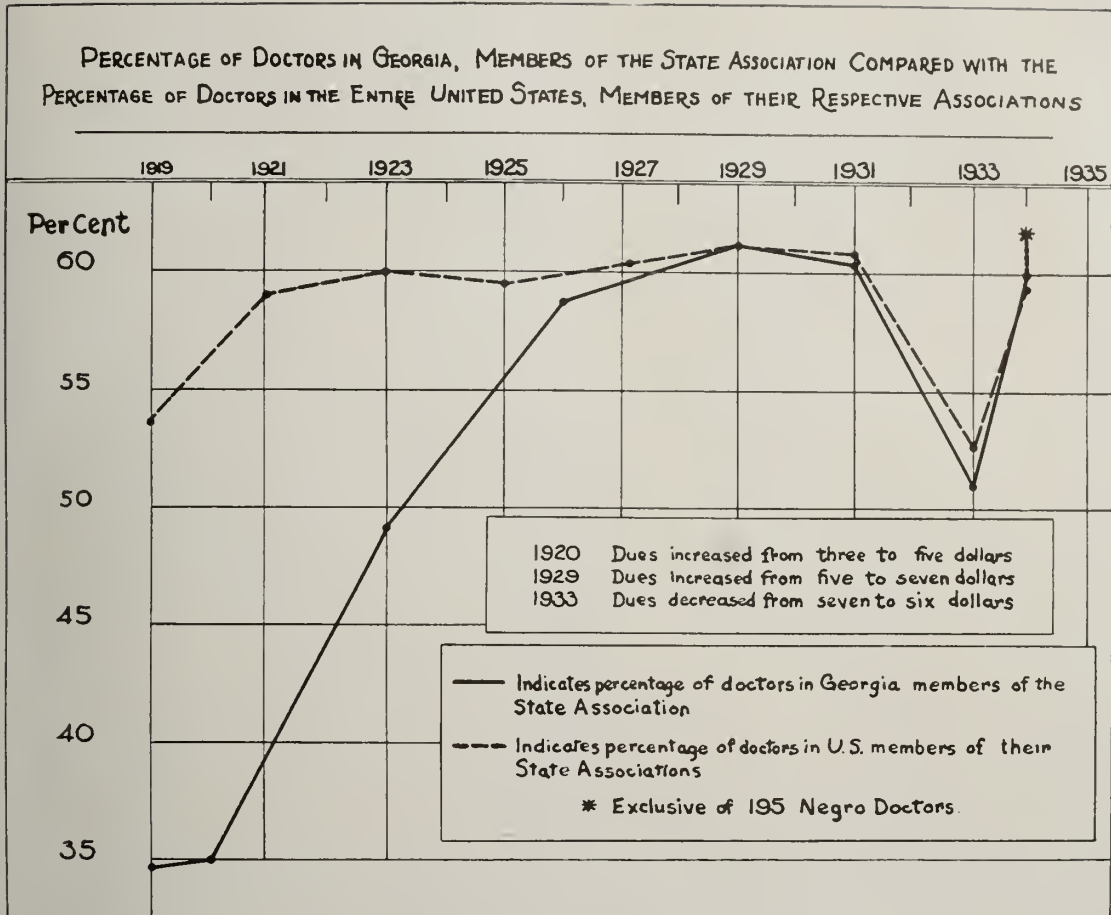
The Hardman Cup

In 1931, Dr. L. G. Hardman, at that time Governor, presented to the Association a magnificent silver cup, on which are to be inscribed from time to time the names of outstanding members with their achievements in original work. In 1933 Dr. R. R. Kracke was so honored for his studies in agranulocytosis and other blood diseases. In 1934, Dr. J. A. Redfearn was added for his leadership in the control of malaria throughout his home county of Dougherty.

The Fischer Prizes

The Fulton County Medical Society has been fortunate in having in its membership a farseeing man who has labored many years for the progress of medicine in the Southeast,—Dr. L. C. Fischer. In order to stimulate interest in medical research and to improve medical writing, in 1925 he established the L. C. Fischer prizes: one prize of one hundred dollars for the best research work and the other of the same amount for the best written paper, presented before a regular meeting of the Society.

The first year of the award, both prizes were won by Dr. M. Hines Roberts, whose paper was entitled, "Spinal Fluid in the New-Born with Special Reference to Intracranial Hemorrhage." In 1926, both prizes were awarded to Dr. Dan C. Elkin, the title of whose paper was "Postoperative Atelectasis of the Lung." In 1927, the prize for research was won by Dr. M. Hines Roberts with "The Relation of Pigment Content in the Serum and Spinal Fluid of New-Born Infants," and Drs. Hugh Wood and George A. Williams received the prize for the best written paper with "Primitive Human Hearts."



No paper read in 1928 was considered worthy of either award.

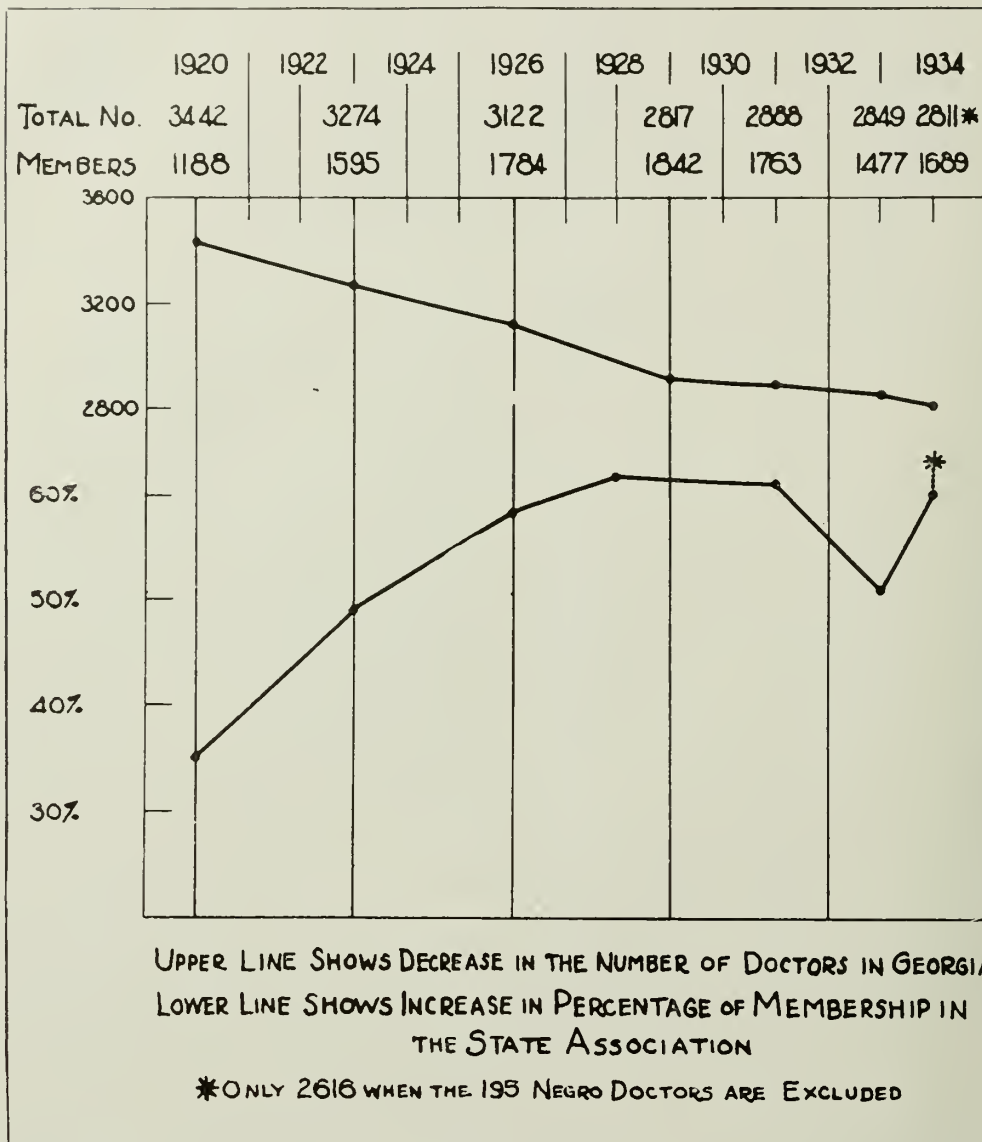
In 1929, Dr. J. R. McCord received the research prize for "Studies of the Syphilitic Placenta," and Dr. L. Minor Blackford that for the best written paper, "The Tetralogy of Fallot." The following year, "A Yeast Pathogenic for Man and Animals (*Saccharomycete Pleomorphus Virulens*)" secured the research prize for Dr. Jack C. Norris, and "Fatal Hepatogenic Hypoglycemia Following Neoarsphenamine" that for the best written paper to Dr. John B. Cross. In 1931 prize for original work went to Dr. Lee Bivings for "Eczema in Infancy and Childhood: Its Relation to Allergy," and that for medical writing to Dr. Mark S. Dougherty for "Toxic Reactions Produced by the Derivatives of Barbituric Acid."

In 1932, the prize for research was granted to Drs. R. A. Bartholomew and R. R. Kracke for "The Relation of Placental Infarcts to Eclamptic Toxemia," and the best

written paper was considered "Right Aortic Arch" by Drs. L. M. Blackford and T. F. Davenport. "Electrocardiographic Studies of the Dying Human Heart," by Drs. J. F. Hanson, W. K. Purks and R. G. Anderson, was judged the most original work in 1933, and "Congenital Heart Block" by Dr. L. Minor Blackford the best written. Dr. W. Frank Wells' paper on "Plastic Reconstruction of the Vagina" was awarded the research prize for 1934, and Dr. Stacy C. Howell won the prize for the best written paper with his essay on "The Action of Epinephrine on the Normal Human Eye."

Medical Schools

The most harmonious relations have existed between the two medical schools of the State and the Association. Members of their faculties have given us valuable leadership and the Association has supported them in every way possible. An issue of the JOURNAL was devoted to the Centenary of the Medical Department of the University of Georgia, and,



as already noted, the Association rallied to a man when its existence was threatened a few years ago. Another number of the JOURNAL celebrated the acquisition of Vesalius' De Fabrica by Emory University School of Medicine. The alumni banquets of the two institutions are one of the high lights of the annual meeting of the Association.

Post-Graduate Education

Space does not permit the details of the efforts that have been made along these lines. It must suffice to mention the yearly week of clinics staged by the Public Health Service and Emory University in Atlanta, the corresponding week put on by the University of Georgia at Augusta, the extension

courses organized by each University in other towns throughout the state, and Dr. McCord's intensive courses in obstetrics offered in the smaller towns, sponsored by the State Board of Health and, fittingly, the U. S. Department of Labor.

The District Society Meetings, particularly those of the Fifth District, which for several years has made a point of inviting distinguished visitors from other states, and the Chattahoochee Valley Medical and Surgical Association have offered additional means for members of the Medical Association of Georgia to keep abreast of the times.

The post-graduate education of the negro physicians of the state has not been altogether neglected by us. A two-weeks course in

obstetrics and general medicine was offered them in 1930 by the State Board of Health. Emory University School of Medicine and the Rosenwald Foundation, and the opportunity was eagerly embraced. Another course in pediatrics is being offered them the coming summer and accommodations being limited, the roster has already been completed. One may also mention that on several occasions the negro physicians' Medical Association has invited our members to address their convention, an invitation that has always been accepted. Dr. J. L. Campbell addressed a large public mass meeting arranged by them on cancer.

Hospitals and Training Schools for Nurses

In 1920 Georgia had a total of 57 hospitals, including government and non-government hospitals, with 3,228 beds with an average of 2,089 patients. By 1923 there were 20 government hospitals with a total of 6,334 beds and 72 non-government hospitals with a total of 3,178 beds with an average of 7,337 patients. In 1927 the number of government hospitals had increased to 27 with 8,279 beds and 83 non-government hospitals with 3,420 beds. These had an average of 8,940 patients. Since there was an increase of 11 non-government hospitals with an increase of only 242 beds it is evident that this increase was due to the building of small hospitals. In 1931, there were 30 government hospitals with 9,302 beds and 84 non-government hospitals with 3,491 beds with an average of 10,074 patients. These hospitals had a total of 98,648 patients. In 1934 there were 30 government hospitals with 10,914 beds and 79 non-government hospitals with 3,147 beds with an average of 110,857 patients. The total number of patients admitted was 110,373.

While the number of hospitals in Georgia approved for internship has remained practically the same since 1920—being seven in 1920 to 1925, eight from 1926 to 1928 and seven from 1929 to 1935 with the single exception of 1933 when there were only six—the number of interns had gradually increased from 25 in 1920 to 64 in 1934, the high water mark being reached in 1928 when there were 73 interns in approved hospitals.

The bed capacity of these hospitals increased from 987 in 1920 to 1,748 in 1930 and then decreased to 1,507 in 1934.

Accredited training schools for nurses have gradually decreased in number and have increased in efficiency during the past several years. The requirements for admission have been remarkably raised and the courses of study greatly improved. In 1926 there were a total of 56 training schools of which 44 were accredited. In 1931 there were 39 of which 30 were accredited and in 1934 there were only 22 of which 18 were accredited.

Cancer Commission

Although established earlier, the Cancer Commission became more active in 1920. During the annual convention session that year it held its first public meeting, when Governor Hugh M. Dorsey introduced Dr. Harvey R. Gaylord. Since then many other distinguished speakers from a distance, as well as many Georgians, have addressed the public in a campaign to prevent cancer so far as possible and to facilitate early diagnosis. The Commission has also prepared many newspaper articles, has given broadcasts, distributed leaflets and other literature, has sent speakers before Women's clubs, Parent-Teachers Associations and others. Although the actual number of deaths from cancer in Georgia has increased, this is largely due undoubtedly to more accurate diagnoses. May I pay tribute to Dr. James L. Campbell who, as Chairman, has worked unceasingly in season and out of season to lower the morbidity and mortality from cancer in this state.

Medical Defense

The Committee on Medical Defense was inaugurated in 1916. During the period of the war people had other things to think about, but the general post bellum demoralization, it would appear, inspired a number of persons to bring suit against their doctors. The sum of the amounts sued for has often exceeded \$300,000 a year. Since 1920, the Medical Association of Georgia has retained the General Counsel whose work has been thoroughly satisfactory. Many interesting tales might be told of the attempts of some of our fellow-citizens to get money for nothing, but they would hardly be appropriate

here. Suffice it to say that many of the suits were started because of some careless remark by another physician who knew nothing of the case: let me beg the membership to be guarded in commenting on the handling of a case by some other doctor. Since so many suits have been successfully defended, it would seem that they are growing fewer in number. This feature of medical defense is not only the cheapest possible form of insurance against suits for malpractice (it alone is worth many times the cost of the state dues), but it is also the most dignified type of defense.

The Journal

Due to the unsettled conditions in 1920 when the present Secretary and Editor was elected, THE JOURNAL OF THE MEDICAL ASSOCIATION OF GEORGIA was three months behind in publication. It was a 26-page magazine and one in which we could take little pride. The papers submitted were few in number, carelessly prepared, and printed in a slovenly manner. Apparently there was no proof-reading. There were no news items. Much of the space was taken up with abstracts of papers published elsewhere. There was a long list of honorary editors.

At the time of the election of the incumbent, Dr. Marion C. Pruitt was appointed Business Manager, and he rendered yeoman service in placing the JOURNAL on a firm basis. Dr. Pruitt was unable on account of his increasing practice and of growing demands of the JOURNAL, to continue his work, so he was succeeded in 1924 by a full-time Executive Secretary on a salary basis. In 1926 Mr. H. L. Rowe was appointed to this position, and with every passing year his usefulness to the organization has increased.

The large advisory board was dropped in 1921 and a Publication Committee of three substituted. Dr. W. E. McCurry, the first Chairman of this committee, was particularly helpful with his advice and actual editing of the papers. Dr. R. S. Leadingham served two years as Associate Editor. Shortly after his resignation, four Associate Editors from the younger men, Drs. Evert A. Bancker, Jr., L. Minor Blackford, Mark S. Dougherty, Jr., and Joseph C. Massee, were appointed by

the Publication Committee to aid in the preparation of manuscripts for the printer.

From time to time the JOURNAL has published hints as to the preparation of medical papers, culminating in an ambitious essay by Dr. Blackford in March, 1930. These efforts have not been as successful as might have been wished, but there has been a continuous and very marked improvement in the form in which papers are submitted. The Associate Editors have done good work in eliminating excess verbiage, correcting misspelled words and other bits of carelessness, and in general bringing manuscripts mechanically and structurally to something approaching the standards of the A. M. A. journals. They have met with the Editor once a month for the discussion of policies and other matters pertaining to the JOURNAL, and, when it has been possible, the President of the Association, members of the Publication Committee and of the Council have also been present. The results of these informal meetings have been reflected in the improvement of the JOURNAL.

Securing good editorials each month constitutes something of a problem. Long ago I concluded that I could not give a fresh message to my fellow members every month, and early in my tenure of office I began to invite officers of the Association and other members to write editorials. Sometimes a letter has been received which seemed appropriate for this purpose. Messages from the officers of the Association and announcements of various kinds have served at times. From time to time the Associate Editors have come to the rescue with a short essay on some subject that moved their spirit. They have been expected in turn to contribute or secure an editorial each month: when one has not been able to work up an idea in his turn or when one has wanted to get something off his chest out of turn, harmony has prevailed. The friendship and cooperation of the Board has been most pleasant. In my opinion, the standard of the editorials has been high.

Of course, the success of the JOURNAL is largely dependent upon the success of the Association's Committee on Scientific Work. This committee prepares the program for the

annual convention, and each paper read before this session is published in the JOURNAL. If poor papers are read at the state convention, poor papers will be published in the state JOURNAL. If a paper is inherently poor, no amount of editing can make it good. It is worthy of note in this connection that, whereas formerly it was difficult to secure enough papers to complete a program, in recent years the committee has had to reject more than half of the titles submitted. This has unquestionably improved the quality of those that were read before the Association. Very few others submitted to the JOURNAL have had to be turned down. We hope that the day will come when every one who wishes to contribute to the JOURNAL will prepare his manuscript to conform to the standards of the A. M. A. Press, which have been ours for a number of years.

The JOURNAL, as you know, is now a magazine of from 62 to 68 pages, printed on good paper with few typographical errors. It appears promptly each month, and compares favorably, not only in our own eyes but in those of the profession at large, with the best State Journals in the country.

For a number of years the JOURNAL has been a source of income to the State Association. Repeatedly the Editors have requested that this surplus be returned to a special fund for making a bigger and better publication, but so far this has not been done.

From time to time the suggestion has been made that the Medical Association of Georgia combine with the Associations of its neighboring states to get out a joint journal, with a full-time experienced editor. The advantages are obvious,—less second rate material would be published in the South, and perhaps what was published would be more highly polished. On the other hand, the income from advertising from three or four state journals, though obviously larger than that of a single journal in a state of similar size, must greatly exceed that of a joint journal of the several states; advertisers just won't pay more than so much for space. Moreover, the chances of state jealousy, particularly among a people as high strung and sensitive as we of the South, are great. The

function of a state journal, when all is said and done, is not to publish the advances of pure science, not to advocate elaborate procedures possible only in expensively equipped hospitals, not to publish discussions of the very rare conditions that are occasionally encountered in the great medical centers, nor to be an organ of any group of specialists. The functions of a state journal are to benefit the general practitioner by keeping him abreast of progress in clinical medicine and by allowing him to give other practitioners the benefit of his actual experience; and to keep the physicians of the state informed of the special problems that confront them, as in the passing or defeating of certain laws in the state legislature; and finally, to promote solidarity and friendship among the members of the Association by informing them of the doings of each other. The present Editors hope the JOURNAL OF THE MEDICAL ASSOCIATION OF GEORGIA will never, through merging with its sister journals, commit hari kari.

ACKNOWLEDGEMENTS

I wish to express my sincere appreciation for valuable assistance in preparing these "Notes" to Dr. W. D. Cutter, Secretary of the Council on Medical Education and Hospitals of the A. M. A.; Miss Marjorie Hutchins Moore, Librarian of the A. M. A.; Miss Mildred Jordan, Librarian, The A. W. Calhoun Medical Library, Emory University, and Dr. L. Minor Blackford, Associate Editor of the JOURNAL.

COUNCIL AND COMMITTEES

Members of the Council 1920-1935

1919-20—Chairman, E. T. Coleman, Twelfth District; A. J. Mooney, First District; C. K. Sharp, Second District; V. O. Harvard, Third District; H. W. Terrell, Fourth District; E. P. Merritt, Fifth District; J. O. Elrod, Sixth District; George B. Smith, Seventh District; W. E. McCurry, Eighth District; L. C. Allen, Ninth District; H. D. Allen, Tenth District; R. C. Woodard, Eleventh District.

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OFFICERS—1920-1935

Date	Meeting Place	President	President-Elect	Vice-Presidents	Secretary-Treasury	Parliamentarian	Delegates to A.M.A.	Alternates
1920	Macon	E. G. Jones		W. H. Hendricks J. M. Smith	W. C. Lyle		Stewart R. Roberts H. H. Martin	E. C. Thrash A. G. Fort
1921	Rome	E. T. Coleman		T. E. Oertel Fred L. Webb	Allen H. Bunce		W. C. Lyle E. G. Jones	J. G. Dean M. A. Clark
1922	Columbus	E. C. Thrash		H. W. Terrell R. M. Harbin	Allen H. Bunce		W. C. Lyle E. G. Jones	J. G. Dean M. A. Clark
1923	Savannah	J. M. Smith		P. A. Tatum A. R. Rozar	Allen H. Bunce	M. A. Clark	W. C. Lyle W. E. McCurry	J. G. Dean R. Lattimore
1924	Augusta	John W. Daniel		A. J. Mooney H. C. Whelchel	Allen H. Bunce	M. A. Clark	W. E. McCurry J. W. Palmer	R. Lattimore J. N. Brawner
1925	Atlanta	J. O. Elrod		W. A. Mulherin B. H. Wagon	Allen H. Bunce	M. A. Clark	J. W. Palmer Allen H. Bunce	J. N. Brawner W. C. Lyle
1926	Albany	Frank K. Boland		Wm. R. Dancy H. M. Fullilove	Allen H. Bunce	M. A. Clark	Allen H. Bunce* R. L. Miller C. Thompson	W. C. Lyle C. W. Roberts E. C. Thrash
1927	Athens	V. O. Harvard		J. A. Redfearn B. H. Minchew	Allen H. Bunce	M. A. Clark	Allen H. Bunce E. C. Thrash C. W. Roberts	W. C. Lyle J. W. Palmer B. T. Wise
1928	Savannah	W. A. Mulherin		H. M. Fullilove C. Thompson	Allen H. Bunce	M. A. Clark	Allen H. Bunce E. C. Thrash C. W. Roberts	Wm. R. Dancy J. W. Palmer B. T. Wise
1929	Macon	C. K. Sharp	Wm. R. Dancy	W. E. McCurry M. Hines Roberts	Allen H. Bunce	M. A. Clark	Allen H. Bunce† E. C. Thrash Wm. H. Myers	J. W. Palmer C. W. Roberts Wm. A. Mulherin
1930	Augusta	Wm. R. Dancy	G. Y. Moore	C. H. Richardson Grady N. Coker	Allen H. Bunce	M. A. Clark	E. C. Thrash Wm. H. Myers O. H. Weaver	C. W. Roberts Wm. A. Mulherin C. W. Roberts
1931	Atlanta	G. Y. Moore	Arthur G. Fort	George A. Traylor S. T. R. Revell	Allen H. Bunce	M. A. Clark	E. C. Thrash Wm. H. Myers O. H. Weaver	C. W. Roberts Wm. A. Mulherin C. K. Sharp
1932	Savannah	Arthur G. Fort	Marvin M. Head	Marion C. Pruitt H. M. Tolleson	Allen H. Bunce	J. W. Simmons	Wm. H. Myers O. H. Weaver C. W. Roberts	Wm. A. Mulherin C. K. Sharp B. T. Wise
1933	Macon	Marvin M. Head	C. H. Richardson	A. A. Morrison D. H. Garrison	Allen H. Bunce	J. W. Simmons	Wm. H. Myers O. H. Weaver C. W. Roberts	Wm. A. Mulherin C. K. Sharp M. C. Pruitt
1934	Augusta	C. H. Richardson	C. L. Ayers	Jos. D. Applewhite W. W. Turner	Allen H. Bunce	J. W. Simmons	Wm. H. Myers O. H. Weaver C. W. Roberts	Wm. A. Mulherin C. K. Sharp M. C. Pruitt
1935	Atlanta	C. L. Ayers	J. E. Paulin	George A. Traylor Walter G. Elliott	Allen H. Bunce	J. W. Simmons	Wm. H. Myers O. W. Weaver C. W. Roberts	Wm. A. Mulherin C. K. Sharp M. C. Pruitt

*Elected Vice-Speaker, House of Delegates of the A. M. A.
†Elected Trustee of the A. M. A.

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Cancer Commission

- 1920—Chairman, J. L. Campbell; Geo. R. White, W. E. Saunders, T. J. McArthur, W. F. McCurdy, C. H. Richardson, R. M. Harbin, H. M. Fullilove, L. G. Hardman, A. G. Little, T. C. Thompson.
- 1921—Chairman, J. L. Campbell; George R. White, W. E. Saunders, T. J. McArthur, W. F. McCurdy, C. H. Richardson, R. M. Harbin, H. M. Fullilove, L. G. Hardman, A. G. Little, T. C. Thompson, G. R. Maner.
- 1922—Chairman, J. L. Campbell; George R. White, C. K. Sharp, T. J. McArthur, Chas. A. Greer, A. R. Rozar, R. M. Harbin, H. M. Fullilove, M. B. Allen, A. G. Little, T. C. Thompson, A. W. Davis.
- 1923—Chairman, J. L. Campbell; Chas. Usher, C. K. Sharp, T. J. McArthur, J. M. Poer, C. H. Willis, W. H. Lewis, H. M. Fullilove, M. B. Allen, W. W. Battey, A. G. Little, T. C. Thompson.
- 1924—Chairman, J. L. Campbell; Chas. Usher, C. K. Sharp, T. J. McArthur, J. M. Poer, C. H. Willis, W. H. Lewis, H. M. Fullilove, M. B. Allen, W. W. Battey, A. G. Little, T. C. Thompson.
- 1925—Chairman, J. L. Campbell; Chas. Usher, C. K. Sharp, T. J. McArthur, J. M. Poer, C. H. Willis, W. H. Lewis, H. M. Fullilove, M. B. Allen, W. W. Battey, A. G. Little, T. C. Thompson.
- 1926—Chairman, J. L. Campbell; Chas. Usher, C. H. Watt, G. Y. Moore, F. P. Norman, A. R. Rozar,

W. H. Lewis, M. B. Allen, E. A. Wilcox, H. M. Branham, T. C. Thompson, E. L. Bishop.

- 1927—Chairman, J. L. Campbell; C. Thompson, C. H. Watt, G. Y. Moore, Enoch Callaway, A. R. Rozar, W. H. Lewis, M. B. Allen, E. A. Wilcox, C. D. Whelchel, K. McCullough, J. M. C. McAllister, E. L. Bishop.
- 1928—Chairman, J. L. Campbell; Chas. Usher, J. A. Redfearn, G. Y. Moore, C. A. P. Ebbert, A. R. Rozar, R. M. Harbin, M. B. Allen, J. C. Dover, G. T. Bernard, W. M. Folks, W. A. Coleman, E. L. Bishop.
- 1929—Chairman, J. L. Campbell; Chas. Usher, C. K. Wall, G. Y. Moore, C. A. P. Ebbert, A. R. Rozar, R. M. Harbin, M. B. Allen, C. D. Whelchel, G. T. Bernard, W. F. Reavis, J. C. Wall, E. L. Bishop.
- 1930—Chairman, J. L. Campbell; J. W. Simmons, G. H. Lang, Charles Watt, J. C. Patterson, A. A. Barge, H. G. Weaver, R. M. Harbin, M. B. Allen, Stewart Brown, W. J. Cranston, J. W. Edmondson, E. L. Bishop.
- 1931—Chairman, J. L. Campbell; G. H. Lang, Chas. H. Watt, J. C. Patterson, A. A. Barge, H. G. Weaver, R. M. Harbin, S. D. Brown, M. B. Allen, W. J. Cranston, J. W. Simmons, J. W. Edmondson, E. L. Bishop.
- 1932—Chairman, J. L. Campbell; G. H. Lang, C. H. Watt, G. Y. Moore, E. R. Park, J. O. Elrod, R. M. Harbin, S. D. Brown, M. B. Allen, G. T. Bernard, J. W. Simmons, J. J. Clark.
- 1933—Chairman, J. L. Campbell; Wm. H. Myers, C. H. Watt, G. Y. Moore, E. R. Park, C. C. Harrold, R. M. Harbin, S. D. Brown, M. B. Allen, G. T. Bernard, J. J. Clark, Mrs. J. Bonar White, Ex-Officio Representative, Woman's Auxiliary.
- 1934—Chairman, J. L. Campbell; Wm. H. Myers, C. H. Watt, J. Cox Wall, E. R. Park, C. C. Harrold, R. M. Harbin, A. F. Saunders, G. N. Coker, G. T. Bernard.
- 1935—Chairman, J. L. Campbell; Wm. H. Myers, C. H. Watt, E. R. Park, C. C. Harrold, R. M. Harbin, K. McCullough, G. N. Coker, G. T. Bernard, Mrs. J. Bonar White, Ex-Officio, Representative Woman's Auxiliary.

Committee On Hospitals

- 1920—Chairman, E. Bates Block; E. G. Jones, H. H. Martin.
- 1921—Chairman, W. P. Harbin; W. H. Doughty, W. S. Elkin.
- 1922—Chairman, C. C. Harrold; A. D. Little, G. A. Caldwell.
- 1923—Chairman, T. H. Hall; A. D. Little, W. E. Person.
- 1924—Chairman, H. H. McGee; J. H. Downey, C. Thompson.
- 1925—Chairman, H. H. McGee; R. M. Harbin, C. Thompson.
- 1926—Chairman, C. Thompson; R. M. Harbin, W. H. Myers.

- 1927—Chairman, B. T. Wise; Hugh N. Page, A. J. Mooney.
 1928—Chairman, C. S. Lentz; R. H. Oppenheimer, Jno. W. Daniel.
 1929—Chairman, C. S. Lentz; Grady N. Coker, B. T. Wise, G. F. Klugh, J. K. Quattlebaum.
 1930—Chairman, C. S. Lentz; Grady N. Coker, K. McCullough, G. F. Klugh, J. K. Quattlebaum.
 1931—Chairman, C. S. Lentz; Grady N. Coker, K. McCullough, G. F. Klugh, J. K. Quattlebaum.
 1932—Chairman, Grady N. Coker; C. H. Richardson, K. McCullough, G. F. Klugh, A. D. Little.
 1933—Chairman, R. H. Oppenheimer; G. Y. Massenburg, K. McCullough, G. F. Klugh, A. D. Little.
 1934—Chairman, R. H. Oppenheimer; K. McCullough, G. F. Klugh, A. D. Little, D. H. Poer.
 1935—Chairman, R. H. Oppenheimer; G. F. Klugh, A. D. Little, D. H. Poer, C. D. Whelchel.

Committee On Health and Public Instruction

- 1921—Chairman, Wm. A. Mulherin; J. D. Herrman, J. L. Weddington, T. E. Oertel, J. G. Dean.
 1922—Chairman, Theo. Toepel; Wm. A. Mulherin, F. F. Floyd, T. E. Oertel, C. E. Waits.
 1923—Chairman, Theodore Toepel; Wm. A. Mulherin, F. F. Floyd, J. M. Smith, Allen H. Bunce.
 1924—Chairman, Theodore Toepel; H. B. Neagle, J. F. Mixson, J. W. Daniel, Allen H. Bunce.
 1925—Chairman, Theodore Toepel; H. B. Neagle, J. A. Thrash, J. O. Elrod, Allen H. Bunce.
 1926—Chairman, Theodore Toepel; H. B. Neagle, J. A. Thrash, F. K. Boland, Allen H. Bunce.
 1927—Chairman, J. A. Thrash; H. B. Neagle, Theodore Toepel, V. O. Harvard, Allen H. Bunce.
 1928—Chairman, Theodore Toepel; Paul Eaton, Wm. R. Dancy, Wm. A. Mulherin, Allen H. Bunce.
 1929—Chairman, Theodore Toepel; Paul Eaton, V. H. Bassett, C. K. Sharp, Allen H. Bunce.

Committee On Crawford W. Long Statue

- 1921—Chairman, Garnet Quillian; C. R. Riner, W. E. McCurry, J. M. Smith, F. W. McRae, E. C. Thrash, R. H. Stovall, H. M. Fullilove, L. G. Hardman, J. M. Anderson.
 1922—Chairman, W. A. Selman; J. C. Bennett, R. C. Woodard, J. M. Smith, F. W. McRae, Jr., R. M. Goss, R. B. Gilbert, M. C. Pruitt, J. M. Anderson, T. C. Thompson.
 1923—Chairman, L. G. Hardman; D. W. Freeman, J. R. McMichael, L. A. Baker, F. W. McRae, Jr., J. C. Bennett, M. C. Pruitt, J. C. Pate, J. M. Anderson, M. D. Council.
 1924—Chairman, L. G. Hardman; L. C. Allen, J. R. Youmans, J. D. Herrman, W. J. Cranston, J. L. Weddington, J. D. Bailey, H. R. Slack, G. W. Quilian.

Committee On National Defense

- 1925—First District, R. E. Graham; Second District, H. M. Moore; Third District, J. C. Patterson; Fourth District, W. F. Jenkins; Fifth District,

(Chairman) F. K. Boland; Sixth District, L. M. Gable; Seventh District, Chas. V. Wood; Eighth District, E. F. Griffith; Ninth District, J. K. Burns; Tenth District, F. X. Mulherin; Eleventh District, G. T. Crozier.

- 1926—First District, R. E. Graham; Second District, H. M. Moore; Third District, J. C. Patterson; Fourth District, W. F. Jenkins; Fifth District, (Chairman) R. R. Daly; Sixth District, L. M. Gable; Seventh District, Chas. V. Wood; Eighth District, E. F. Griffith; Ninth District, J. K. Burns; Tenth District, F. X. Mulherin; Eleventh District, G. T. Crozier; Twelfth District, O. H. Cheek.

- 1927—First District, R. E. Graham; Second District, H. M. Moore; Third District, J. C. Patterson; Fourth District, W. F. Jenkins; Fifth District, (Chairman) F. K. Boland; Sixth District, L. M. Gable; Seventh District, Chas. V. Wood; Eighth District, E. F. Griffith; Ninth District, J. K. Burns; Tenth District, F. X. Mulherin; Eleventh District, G. T. Crozier; Twelfth District, O. H. Cheek.

Crawford W. Long Memorial Prize

- 1927-1932—Chairman, Wm. R. Dancy; S. R. Roberts, V. P. Sydenstricker, G. Bachmann, R. V. Lamar.
 1933-1935—Chairman, Wm. R. Dancy; S. R. Roberts, V. P. Sydenstricker, G. Bachmann, E. R. Pund.

Abner Wellborn Calhoun Lectureship

- 1928—Chairman, Governor L. G. Hardman; F. K. Boland, J. E. Paullin.
 1929—Chairman, J. E. Paullin; G. B. Smith, E. E. Murphey, Craig Barrow, F. K. Boland.
 1930-1935—Chairman, J. E. Paullin; H. I. Reynolds, E. E. Murphey, Craig Barrow, F. K. Boland.

Medical History of Georgia

- 1929—Chairman, E. C. Thrash; F. K. Boland, M. A. Clark, C. K. Sharp, Allen H. Bunce.
 1930—Chairman, E. C. Thrash; F. K. Boland, M. A. Clark, Wm. R. Dancy, Allen H. Bunce.
 1931—Chairman, E. C. Thrash; F. K. Boland, M. A. Clark, G. Y. Moore, Allen H. Bunce.
 1932—Chairman, E. C. Thrash; F. K. Boland, M. A. Clark, A. G. Fort, Allen H. Bunce.
 1933—Chairman, F. K. Boland; Wm. R. Dancy, A. G. Fort, M. M. Head, Allen H. Bunce.
 1934—Chairman, F. K. Boland; Wm. R. Dancy, A. G. Fort, C. H. Richardson, Allen H. Bunce.
 1935—Chairman, F. K. Boland; Wm. R. Dancy, A. G. Fort, C. L. Ayers, Allen H. Bunce.

Advisory Committee—Woman's Auxiliary

- 1929—Chairman, Jno. W. Daniel; A. G. Fort, P. L. Holliday, C. C. Hinton, E. E. Murphey.
 1930—Chairman, B. H. Minchew; M. T. Benson, P. L. Holliday, Wm. H. Myers, E. E. Murphey, Wm. R. Dancy, Allen H. Bunce.
 1931—Chairman, B. H. Minchew; M. T. Benson,

V. C. Daves, Wm. R. Dancy, P. L. Holliday, Allen H. Bunce.

1932—Chairman, B. H. Minchew; M. T. Benson, W. E. McCurry, Ralston Lattimore, P. L. Holliday, Allen H. Bunce.

1933—Chairman, B. H. Minchew; M. T. Benson, R. V. Martin, S. T. R. Revell, A. G. Fort, Allen H. Bunce.

1934—Chairman, B. H. Minchew; Jas. N. Brawner, Ralston Lattimore, Jas. L. King, Chas. A. Greer.

1935—Chairman, B. H. Minchew; Jas. N. Brawner, C. H. Richardson, J. E. Penland, C. G. Butler.

*Committee for Study of Maternal Mortality
and Infant Deaths*

1933—Chairman, M. Hines Roberts; First District, G. G. Lunsford, A. J. Waring; Second District, I. M. Lucas, S. L. Cheshire; Third District, T. J. McArthur, J. C. Patterson; Fourth District, T. S. Bailey, S. C. Rutland; Fifth District, C. B. Upshaw, M. Hines Roberts; Sixth District, E. F. Griffith, J. D. Applewhite; Seventh District, P. O. Chaudron, J. E. Lester; Eighth District, J. W. Simmons, G. T. Crozier; Ninth District, C. L. Ayers, D. H. Garrison; Tenth District, S. S. Smith, Wm. A. Mulherin; Ex-Officio, T. F. Abercrombie.

1934—Chairman, S. S. Smith; First District, G. G. Lunsford, A. J. Waring; Second District, I. M. Lucas, S. L. Cheshire; Third District, C. P. Savage, J. C. Patterson; Fourth District, T. S. Bailey, S. C. Rutland; Fifth District, J. R. McCord, M. Hines Roberts; Sixth District, E. B. Claxton, J. D. Applewhite; Seventh District, P. O. Chaudron, J. E. Lester; Eighth District, J. W. Simmons, G. T. Crozier; Ninth District, M. B. Allen, D. H. Garrison; Tenth District, S. S. Smith, Wm. A. Mulherin; Ex-Officio, T. F. Abercrombie.

1935—Chairman, E. D. Colvin; First District, G. G. Lunsford, A. J. Waring; Second District, I. M. Lucas, S. L. Cheshire; Third District, C. P. Savage, J. C. Patterson; Fourth District, T. S. Bailey, S. C. Rutland; Fifth District, J. R. McCord, E. D. Colvin; Sixth District, E. B. Claxton, J. D. Applewhite; Seventh District, P. O. Chaudron, J. E. Lester; Eighth District, J. W. Simmons, G. T. Crozier; Ninth District, M. B. Allen, D. H. Garrison; Tenth District, S. S. Smith, Joseph Akerman; Ex-Officio, T. F. Abercrombie.

L. G. Hardman Loving Cup

1933-1934—Chairman, W. A. Selman; Wm. A. Mulherin, C. H. Watt, Wm. H. Myers, C. C. Harold, Allen H. Bunce.

1935—Chairman, W. A. Selman; Wm. A. Mulherin, C. H. Watt, Wm. H. Myers.

Economics and Public Relations

1934—Chairman, R. M. Harbin; Wm. A. Mulherin,

C. L. Ridley, Dan Y. Sage, C. W. Roberts, Mrs. J. Bonar White, President Woman's Auxiliary, Ex-Officio.

1935—Chairman, F. K. Boland; C. W. Roberts, C. L. Ridley, Dan Y. Sage, J. H. Downey.

MEMBERS OF THE STATE BOARD OF HEALTH

Nominated by the Medical Association of Georgia

1934-1935—C. Thompson, Sept. 1, 1939, First District; C. K. Sharp, Sept. 1, 1939, Second District; Mr. R. C. Ellis, Sept. 1, 1936, Third District; M. M. Head, Sept. 1, 1937, Fourth District; Mr. R. B. Maddox, Sept. 1, 1936, Fifth District; A. R. Rozar, Sept. 1, 1938, Sixth District; M. M. McCord, Sept. 1, 1938, Seventh District; H. W. Clements, Sept. 1, 1938, Eighth District; L. C. Allen, Sept. 1, 1939, Ninth District; Wm. A. Mulherin, Sept. 1, 1937, Tenth District.

*Members from the State at Large Nominated by the
Georgia Pharmaceutical Association*

T. C. Marshall, Sept. 1, 1935; Claud Rountree, Sept. 1, 1935.

*Members from the State at Large Nominated by the
Georgia Dental Association*

M. H. Varn, Sept. 1, 1934; Wm. Winston, Sept. 1, 1940; R. F. Sullivan, Sept. 1, 1934; Paul McGee, Sept. 1, 1940.

HONORARY ADVISORY BOARD

OF

MEDICAL ASSOCIATION OF GEORGIA

(Created 1934)

W. F. Westmoreland	President	1894-1895
T. J. McArthur	President	1909-1910
Ralston Lattimore	President	1913-1914
W. S. Goldsmith	President	1915-1916
J. G. Dean	President	1916-1917
E. E. Murphey	President	1917-1918
J. W. Palmer	President	1918-1919
J. M. Smith	President	1922-1923
J. W. Daniel	President	1923-1924
J. O. Elrod	President	1924-1925
F. K. Boland	President	1925-1926
V. O. Harvard	President	1926-1927
W. A. Mulherin	President	1927-1928
C. K. Sharp	President	1928-1929
Wm. R. Dancy	President	1929-1930
A. G. Fort	President	1931-1932
M. M. Head	President	1932-1933
C. H. Richardson	President	1933-1934

Advisory Committee—State Board of Health

1935—Chairman, C. W. Roberts; Wm. H. Myers, M. M. McCord, M. E. Winchester, M. Mashburn, H. M. Tolleson, T. F. Abercrombie.

The Eighty-Seventh Annual Session of the Medical Association of Georgia will be held at Savannah, May 12, 13, 14, 15, 1936.

WOMAN'S AUXILIARY TO THE MEDICAL ASSOCIATION OF GEORGIA*

MRS. ALLEN H. BUNCE
Atlanta

On Thursday, May 8, 1924, during the session of the Medical Association of Georgia, in Augusta, the Woman's Auxiliary was organized. Its membership is limited to the wives of doctors who are members in good standing in the Medical Association of Georgia and to the widows of doctors who have died while in good standing. Its object is to extend the aims of the medical profession through the wives of the doctors to the various women's organizations which look to the advancement in health and education; to assist in entertainment at State, District and County Society meetings; to promote acquaintanceship among doctors' families, that local unity and harmony may be increased.

On Friday, May 9th, the House of Delegates of the Medical Association of Georgia recognized and approved the Woman's Auxiliary and gave the members the privilege of attending the scientific meetings and allowed them to wear a special badge. This was carried out and in less than twenty-four hours the Auxiliary was recognized and approved by its parent body.

Two weeks later the Woman's Auxiliary became affiliated with the National Auxiliary at its Third Annual Meeting in Chicago.

The Journal of the Medical Association of Georgia, through its Editor and Publication Committee, has published from the very beginning whatever material was sent it and in 1927 the Auxiliary was granted a regular department which has been supplied through an Auxiliary Editor.

The committees are all under the supervision of the Advisory Council and are doing constructive work. Mrs. John Bonar White is an ex-officio member of the Cancer Commission of the Medical Association of Georgia.

The Auxiliary to the Medical Association

of Georgia has furnished to the National Auxiliary a President, Mrs. Allen H. Bunce; a Secretary, Mrs. M. T. Edgerton; a vice-president, Mrs. John Bonar White; Director, Mrs. James N. Brawner; and Auditor, Mrs. C. W. Roberts.

The Auxiliary to the Medical Association of Georgia is also affiliated with the Auxiliary to the Southern Medical Association. It has furnished to the Auxiliary two Presidents, Mrs. James N. Brawner; Mrs. John Bonar White, and a Secretary, Mrs. E. A. Allen.

First Annual Meeting: Atlanta, May 13, 14, 15, 1925. President, Mrs. James N. Brawner; First Vice-President, Mrs. G. T. Bernard; Second Vice-President, Mrs. Paul L. Holliday; Secretary, Mrs. Allen H. Bunce. Outstanding work reported: Tentative plans for organization, some already in operation, were perfected. Office of District Managers created. Constitution and By-Laws adopted.

Second Annual Meeting: Albany, May 12, 13, 14, 1926. President, Mrs. Wm. H. Myers, Savannah; Vice-President, Mrs. C. W. Roberts, Atlanta; Secretary-Treasurer, Mrs. A. J. Mooney, Statesboro; Parliamentarian, Mrs. Allen H. Bunce, Atlanta. Outstanding work reported: Twelve District Managers accepted appointments and every one was working hard to interest the eligible doctors' wives. Much advancement in organization work. Periodic health examinations stressed. Mrs. James N. Brawner made Honorary President.

Third Annual Meeting: Athens, May 11, 12, 13, 1927. President, Mrs. C. W. Roberts, Atlanta; Vice-President, Mrs. W. L. Davis, Albany; Secretary-Treasurer, Mrs. Marion T. Benson, Atlanta; Parliamentarian, Mrs. Allen H. Bunce, Atlanta. Outstanding work reported: Revision Constitution and By-Laws. Offices of President-elect, Second and Third Vice-Presidents created. The office of Secretary-Treasurer abolished and offices of Treasurer, Recording Secretary, Corresponding Secretary instituted. Hygeia subscriptions increasing. Organization of several county auxiliaries. Cooperation between the medical societies and their respective auxiliaries gaining impetus in the accomplishment of health work.

Fourth Annual Meeting: Savannah, May 9, 10, 11, 1928. President, Mrs. Paul Holliday, Athens; President-Elect, Mrs. C. C. Hinton, Macon; First Vice-President, Mrs. Marion T. Benson, Atlanta; Second Vice-President, Mrs. Wm. R. Dancy, Savannah; Third Vice-President, Mrs. H. L. Rudolph, Gainesville; Recording Secretary, Mrs. J. A. Selden, Macon; Corresponding Secretary, Mrs. Guy O. Whelchel, Athens; Treasurer, Mrs. Stewart D. Brown, Royston; Parliamentarian, Mrs. James N. Brawner, Atlanta; Mrs. Guy O. Whelchel resigned.

*NOTE: This is only a brief abstract of the wonderful work accomplished by the Woman's Auxiliary to the Medical Association of Georgia since its organization.



MRS. J. E. PENLAND, Waycross
President, 1934-35

The members think that this year's health program, planned in cooperation with the Medical Association of Georgia, and promoted through various lay organizations, has had a far reaching effect. Forty-five thousand copies for health talks have been distributed. Many requests for material have come from other states.

"Doctors' Day, March 30th, was observed in many counties. Efforts are being made to get the Woman's Auxiliary to the A. M. A. to adopt it.

Mrs. Thomas Holcombe appointed to replace her at a meeting of the Executive Board in Atlanta, December 7, 1927. Outstanding work reported: Progress made in organization, the President made personal visits to the various auxiliary meetings to explain the possibilities of auxiliary work in developing the suggested monthly programs. Greater interest manifested by individual members in health education. Hygeia subscriptions increased.

Fifth Annual Meeting: Macon, May 7, 8, 9, 10, 1929. President, Mrs. C. C. Hinton, Macon; President-elect, Mrs. Marion T. Benson, Atlanta; First Vice-President, Mrs. Wm. R. Dancy, Savannah; Second Vice-President, Mrs. W. F. Reavis, Waycross; Third Vice-President, Mrs. A. J. Mooney, Statesboro; Corresponding Secretary, Mrs.

J. A. Selden, Macon; Recording Secretary, Mrs. Ralston Lattimore, Savannah; Treasurer, Mrs. M. B. Allen, Hoschton; Parliamentarian, Mrs. J. Cox Wall, Eastman. Outstanding work reported: Medical Association of Georgia appointed an Advisory Committee to the Auxiliary. President-elect made chairman of organization. April 1st made the end of the fiscal year. A registration fee of one dollar to be paid by each person attending the annual meeting, excepting visitors from other states and invited speakers, the proceeds to be turned over to the entertaining auxiliary. Basic Science Law. The establishment of a Health Film Library. Student Loan Fund plan presented by Dr. Wm. R. Dancy for consideration and approval. Two existing loan funds reported by the Bibb and Fulton Counties' auxiliaries.

Sixth Annual Meeting: Augusta, May 14, 15, 16, 1930. President, Mrs. Marion T. Benson, Atlanta; President-elect, Mrs. C. C. Harrold, Macon; First Vice-President, Mrs. J. A. Selden, Macon; Second Vice-President, Mrs. H. D. Allen, Milledgeville; Third Vice-President, Mrs. J. A. Redfearn, Albany; Recording Secretary, Mrs. Lee Howard, Savannah; Corresponding Secretary, Mrs. W. H. Garrison, Clarkesville; Treasurer, Mrs. Charles Waites, Atlanta; Parliamentarian, Mrs. J. E. Penland, Waycross; Editor, Mrs. C. W. Roberts. Outstanding work reported: Advancement in organization work within the county auxiliaries. Greater understanding of the meaning of auxiliary work noted. Health Film Committee expanded, having its own Treasurer. Adoption of the Student Educational Fund. Card index system of membership arranged.

Seventh Annual Meeting: Atlanta, May 12, 13, 14, 15, 1931. President, Mrs. C. C. Harrold, Macon; President-elect, Mrs. Ralston Lattimore, Savannah; First Vice-President, Mrs. S. T. R. Revell, Louisville; Second Vice-President, Mrs. W. W. Battey, Augusta; Third Vice-President, Mrs. J. E. Penland, Waycross; Recording Secretary, Mrs. J. Cox Wall, Eastman; Corresponding Secretary, Mrs. Wm. R. Dancy, Savannah; Treasurer, Mrs. Benjamin Bashinski, Macon; Parliamentarian, Mrs. Allen H. Bunce, Atlanta. Outstanding work reported: Great strides in the study of health promotion and prevention of disease. Greater understanding of the cooperation necessary between the Medical Association and the Auxiliary. Program of self education stressed. Increased interest in the Student Loan Fund.

Eighth Annual Meeting: Savannah, May 17, 18, 19, 20, 1932. President, Mrs. Ralston Lattimore, Savannah; President-elect, Mrs. S. T. R. Revell, Louisville; First Vice-President, Mrs. John Bonar White, Atlanta; Second Vice-President, Mrs. C. B. Almand, Winder; Third Vice-President, Mrs. D. N. Thompson, Elberton; Recording Secretary, Mrs. J. E. Penland, Waycross; Corresponding Secretary, Mrs. Wm. R. Dancy, Savannah; Treasurer,

Mrs. Benjamin Bashinski, Macon; Parliamentarian, Mrs. Allen H. Bunce, Atlanta; Editor, Mrs. G. H. Johnson, Savannah. Outstanding work reported: Great progress in health education. Auxiliary asked to sponsor regional health conferences by State Board of Health. Assistance given colored doctors' wives who have organized an auxiliary. Public relations with other women's organizations effected by "Program-Teas" in the larger cities. Showing of Health Films. Acceptance of gavel. Resolution adopted by the House of Delegates of the Medical Association of Georgia as follows: "Be it resolved that the Medical Association of Georgia be asked to outline at its sessions each year or as early thereafter as possible, a program for health education, and that it use the Woman's Auxiliary to carry the plan to all lay organizations and endeavor to secure their cooperation and gradually bring about a condition where all health work will be with the approval and under the general supervision of the Medical Association of Georgia."

Ninth Annual Meeting: Macon, May 9, 10, 11, 12, 1933. President, Mrs. S. T. R. Revell, Louisville; President-elect, Mrs. John Bonar White, Atlanta; First Vice-President, Mrs. N. Peterson, Tifton; Second Vice-President, Mrs. C. Thompson, Millen; Third Vice-President, Mrs. J. W. Simmons, Brunswick; Recording Secretary, Mrs. J. E. Penland, Waycross; Corresponding Secretary, Mrs. F. B. Rawlings, Sandersville; Treasurer, Mrs. Chas. Usher, Savannah; Parliamentarian, Mrs. Chas. C. Hinton, Macon; Editor, Mrs. C. W. Roberts. Outstanding work reported: Constitution and By-Laws revised. New filing system inaugurated. Participation in the Extension Course for physicians. Eight of the twelve district auxiliaries have held successful meetings. Health Education work stressed. "Our Tasks" approved by Advisory Council and sent to Executive Board. proved of great value in promoting health education. Mother welfare program instituted and presented to the Institute of the Georgia P.-T. A. Association in session in Athens. Auxiliary was voted a cooperative agent by P.-T. A. in session. The program was also presented to President of the Federated Clubs. First Parent Education Institute held in Georgia at Emory University. Flying Squadron. Georgia Congress P.-T. A. gave one day Institute in many counties in all Districts of the State. An Auxiliary member was a member giving a health talk along the Auxiliary work and distributed Auxiliary educational material.

Tenth Annual Meeting: Augusta, May 8, 9, 10, 11, 1934. President, Mrs. J. Bonar White, Atlanta; President-elect, Mrs. J. E. Penland, Waycross; First Vice-President, Mrs. J. J. Pilcher, Wrens; Second Vice-President, Mrs. R. C. Pendergrass, Americus; Third Vice-President, Mrs. G. Hugo Johnson, Savannah; Recording Secretary, Mrs. Warren A.

Coleman, Eastman; Corresponding Secretary, Mrs. E. A. Allen, Atlanta; Treasurer, Mrs. Chas. Usher, Savannah; Parliamentarian, Mrs. J. M. Barnett, Albany; Historian, Mrs. E. R. Harris, Winder; Editor, Mrs. W. A. Selman, Atlanta. Outstanding work reported: Auxiliary paid for publishing "Our Tasks" and copies sent to entire membership. Public Relations and Health Education created as separate committees. Uniform scrap books adopted for the District and State Auxiliaries, for the Public Relations and Health Education Committees and for use in compiling history. History of Auxiliary written. First Doctor's Day celebrated. Special work done through Tuberculosis Sanatorium at Alto and the State Board of Health. Seal sales in 17 counties. First exhibit of educational material. Course of study at summer extension classes, one afternoon in each class, for the rural sections. Every Woman's Organization doing public health work was contacted by the Public Relations Committee. (101 counties). Auxiliary members gave 168 Health Talks. Two Health Institutes held and 13 Public Relations Programs held in the State. Sixty-eight programs for self education held during the year. Requests sent to Medical Societies for 80 speakers to other organizations. Sponsored first Social Hygiene Sound Film in Georgia. Flying Squadron operated in same manner as in 1932-1933.

Eleventh Annual Meeting: Atlanta, May 7, 8, 9, 10, 1935. President, Mrs. J. E. Penland, Waycross; President-elect, Mrs. E. R. Harris, Winder; First Vice-President, Mrs. Ralph H. Chaney, Augusta; Second Vice-President, Mrs. J. M. Barnett, Albany; Third Vice-President, Mrs. G. Hugo Johnson, Savannah; Recording Secretary, Mrs. Warren A. Coleman, Eastman; Corresponding Secretary, Mrs. B. H. Minchew, Waycross; Treasurer, Mrs. Chas. H. Richardson, Macon; Parliamentarian, Mrs. M. M. McCord, Rome; Historian, Mrs. M. F. Haygood.

The next Annual Convention of the Woman's Auxiliary will be held at Savannah, May 12, 13, 14, 15, 1936.

BOOKS RECEIVED

Names of Surgical Operations, Compiled and Arranged by the Western Surgical Association Through its Special Committee; Edited by Carl E. Black, M.D., Jacksonville, Illinois. Contains 102 pages. Publishers: Bruce Publishing Company, Saint Paul, Minnesota. Price \$3.00.

Failure of the Circulation, by Tinsley Randolph Harrison, M.D., Associate Professor of Medicine, Vanderbilt University School of Medicine, Nashville, Tennessee. Contains 396 pages. Publishers: The Williams & Wilkins Company, Baltimore, Maryland. Price \$4.50.

GASTRO-INTESTINAL COMPLICATIONS OF PULMONARY TUBERCULOSIS*

Review of Case

A. WORTH HOBBY, M.D.

Atlanta

Tuberculosis is said to go hand in hand with poverty, but this is untrue today, for the death rate for the last four depression years has been steadily declining—71.5 per 100,000 in 1930 to 59.1 in 1933.

Of the 90,000 deaths occurring annually in the United States from tuberculosis, 40-60,000 are due directly to intestinal tuberculosis. It is probably the terminal phenomenon in the majority of cases.

Intestinal tuberculosis may be grouped as: (1) Primary, which is rare except in children and is caused by infected milk. It is found most frequently in England. Time does not permit its discussion in this paper. (2) Secondary to pulmonary tuberculosis, caused by swallowing infected sputum or hematogenous deposits. (3) Secondary to tuberculous peritonitis. (4) Hyperplastic tuberculosis of the ileocecal region.

Accordingly, I have studied two hundred cases in the Gastro-intestinal department of the Atlanta Tuberculosis Clinic. Of these, eighty-four are negative for tuberculosis. These are ideal controls, because their surroundings are identical with the remaining one hundred and sixteen positive cases with whom they are compared.

To complete the review some of the non-essential details must be mentioned briefly: (1) Twenty to forty years of age shows the highest incidence. (2) In the tuberculosis group there are twice as many females as males. In the negative group the reverse is true. (3) House-workers predominate in both groups. (4) The largest number of referred cases in both groups are seen in the gastro-intestinal department within one month of admission to the chest clinic. (5) There is no chest pathology on physical examination in

33 per cent of the positive cases while there are positive findings in 28 per cent of the non-tuberculosis cases. (6) In the tuberculous group 12 per cent are diagnosed negative by chest x-ray while 10 per cent are diagnosed positive in the non-tuberculous group. (7) Influenza occurs in 79.5 per cent of both groups. Next come malaria, pneumonia, rheumatism, and typhoid fever, respectively, all occurring in about equal percentage in both groups.

Pain far exceeds all other chief complaints. It is present in 31.3 per cent in the tuberculous group and 24.8 per cent in the non-tuberculous group. Constipation is next. This is found to be true by Cabot also.

The underlying pathology and physical response in ulcerative entero-colitis is an increase in the irritability of the small and large intestine manifested by hypermotility; hence, diarrhea becomes an important symptom. With intestinal ulceration comes irritation of the peritoneum, causing abdominal pain, tenderness and rigidity.

The commonest causes of diarrhea in tuberculous patients are:

1. Intestinal catarrh
2. Tuberculous ulceration
3. Diatetic errors
4. Amyloid degeneration
5. Toxemia

Diarrhea is often the first symptom, but may be slow and insidious in its onset. Its first appearance may be the disappearance of an old chronic constipation. Diarrhea usually alternates with constipation though in the later stages it becomes more frequent, because hypermotility decreases the absorption of water from the large intestine. In this study diarrhea is present in 7.2 per cent in the tuberculous group as compared to 3.6 per cent in the negative cases.

To make a diagnosis the irritating non-tuberculous etiological factors must be ruled out. They are:

1. Protozoan infection—*Entameba histolytica*, *Giardia* and *Trichomonas intestinalis*.
2. Bacterial infection—Bargen's ulcerative colitic and simple colitis.

*Extracts from paper read before the Fulton County Medical Society, Atlanta, March, 1934.

3. Intestinal tumors—malignant and benign.

4. Disorders in functional position or configuration of the colon, spastic colon, redundant colon, low cecum, ptosis, and megacolon.

5. Appendicitis.

6. Digestive disorders—peptic ulcers, achylia gastrica, and pancreatic insufficiency.

7. Nutritional disturbances—pernicious anemia, pellagra.

8. Blood discrasias—myelogenous leukemia.

9. Endocrine disorders—hyperthyroidism, Addison's disease.

10. Cardiorenal diseases.

11. Industrial poisoning—lead and arsenic.

12. Surgical complications—phrenic nerve resection, nephrectomy, and adhesions.

13. Rectal disorders—cryptitis, proctitis and hemorrhoids.

Constipation is almost as frequent as diarrhea and may persist over a period of months. It is usually of the ileo-cecal type and due to spasm. English finds constipation present in 18 per cent of his cases. In this study, constipation is present in 50 per cent of the tuberculous group and 41.6 per cent in the non-tuberculous group.

Pain is the second characteristic of tuberculous ulcerative enterocolitis. It is the most frequent symptom and possibly more definite than that due to any other form of ulceration. It is usually after meals and colicky in character. It may occur early or late in the disease and is most frequently in the epigastrium and around the umbilicus, then in the lower right quadrant. At first it may be mild, then transient and irregular—later becoming severe and persistent, stabbing or cramping in character. Food may increase pain, due to increase in peristalsis, and therefore, starvation relieves it in some cases.

Erickson reports 52 per cent with pain in lower right quadrant, 31 per cent generalizes over abdomen, 21 per cent in upper abdomen and 10 per cent in lower abdomen.

Tenderness first appears over the cecum and later spreads over the entire abdomen. Spasticity and rigidity acts in the same man-

ner. As a result of ulcerative enterocolitis, certain constitutional symptoms appear; as, elevation of temperature above that caused by pulmonary tuberculosis, leucocytosis, anorexia, nausea, cramps, constipation alternating with diarrhea, and failure of the patient to improve when the pulmonary lesion is quiescent. Recurrent attacks may simulate appendicitis. In this series the location of pain is almost identical to those reported by Erickson.

Pyrexia, the third characteristic of ulcerative enterocolitis, may be normal or elevated, but often sub-normal sometime during the day, usually in the morning. There is sufficient toxicity in the tubercle bacilli to cause gastro-intestinal disturbances such as gas, belching, burning, which in turn aggravate nervousness and insomnia, producing fever.

Wasting is sometimes rapid, but rarely so in the cases seen here. Only 39 per cent in the positive group and 32.5 per cent in the negative group show recent loss in weight.

Bronchial peristalsis is demonstrated in 287 cases which have repeated negative sputum examinations. Twenty per cent of these show tubercle bacilli by gastric lavage. This method is especially useful where there are no cough, no expectoration, pneumothorax or thoracoplastic cases.

Gastric symptoms may be absent or predominate the picture. The percentage in the following symptoms of this study conform so closely (within 1 per cent) to those reported by Erickson that only his figures are quoted. They are; nausea 52 per cent, disturbance of appetite 26 per cent, sour stomach 20 per cent, and heart burn 3 per cent.

Until recently tuberculous enteritis was considered the doom of the patient. Bland diet and opiates were the main dependents. X-ray now makes diagnosis possible before extensive ulceration takes place. Brown states that a gastro-intestinal series should be made on all patients.

The presence of signs and symptoms along with x-ray evidence plus known pulmonary tuberculosis justifies the clinical diagnosis of intestinal tuberculosis; however, one should hesitate to make this diagnosis in the absence of pulmonary tuberculosis, for less than 1

per cent of the cases of intestinal tuberculosis without pulmonary involvement is diagnosed.

In one series of necropsies, 63 per cent show more or less involvement of the intestine. Of these, 36.6 per cent are diagnosed during life. In another series of 120, tubercle bacilli are found in 110 in the intestine and only six of these show intestinal tuberculosis clinically. Brown, Sampson, Schwatt, Weigert and others show in necropsy statistics that intestinal tuberculosis occurs in 50 to 80 per cent of all pulmonary tuberculosis.

Diagnosis of intestinal tuberculosis should be considered under two heads: (1) Tuberculous enteritis; (2) Tuberculous colitis. Whereas, the diagnosis of ulceration of the cecum and ascending colon can be made with a high degree of accuracy, the detection of similar pathological changes in more proximal portions of the small intestines is much more difficult.

Those who have worked in this field realize the hopelessness of discovering the presence of early ulceration in the distal duodenum, in the jejunum and in the proximal loops of the ileum. A similar though much less difficult situation exists in the diagnosis of ulceration beyond the hepatic flexure. Fortunately for the x-ray examination, 80 to 90 per cent of the ulceration is found in the ileo-cecal region.

Clinically, all presenting the following symptoms should be x-rayed.

1. A slight rise in temperature without increase in pulmonary symptoms.
2. Failure to gain weight in cases with pulmonary tuberculosis.
3. Digestive disturbances; such as, marked or prolonged anorexia, regurgitation, nausea, vomiting, and flatulence.
4. Slight abdominal discomfort or actual diarrhea.
5. Marked nervousness.

The x-ray is by far the most important agent in establishing the diagnosis of hypermotility and ulceration. Gastro-intestinal series in all pulmonary cases fall in three groups.

1. Negative results by screen examination and plates taken at six, seven, eight, nine and twenty-four hours.

2. The positive group in which the barium meal shows the local and often the general motility to be increased and certain portions of the bowel, usually the cecum and the ascending colon, to be unfilled momentarily. Barium enemas are sometimes positive when the meal is negative.

3. The group containing doubtful cases in which less characteristic spasms of the intestine occur.

Other lesions of the intestine that have to be ruled out during x-ray examinations are:

1. Subacute or chronic appendicitis.
2. Malignant growths of the intestines.
3. Ulceration from any other cause, as amoebic dysentery.
4. Achylia gastrica.
5. Hyperthyroidism.

This series shows 33.3 per cent to have ptosis by x-ray examination. Atony, colitis, adhesions, duodenal ulcers, duodenitis, and stasis come next in the order mentioned.

Up to December, 1932, only nine cases of tuberculosis of Meckel's diverticulum have been reported. It occurs in advanced states of tuberculous enteritis and is secondary to it. The treatment is resection.

In this series, colitis (all types), hyperchlorhydria, duodenitis, adhesions, and duodenal ulcers occur with the frequency in which they are mentioned and are far in excess of all other diagnoses. In a series of 125 sanatorium cases intestinal tuberculosis, redundant colon, spastic colon, mucous colitis, and Bagen's ulcerative colitis occur in the order of frequency mentioned.

Hyperplastic tuberculosis of the ileo-cecal region presents great thickening of the muscular and subserous coats and greatly diminished lumen. It may be a vertical tumor which is hard, fixed, and tender or it may be a generalized thickening in the right ileac fossa. The usual symptoms are attacks of pain in the right iliac fossa, pyrexia, wasting, irregular diarrhea, and constipation. It must be differentiated from cancer, which usually occurs above forty years of age, from appendicitis and diverticulitis.

Tuberculous peritonitis is relatively rare.

(Continued on Page 191)

THE JOURNAL

OF THE
MEDICAL ASSOCIATION OF GEORGIA
Devoted to Welfare of Medical Association of Georgia

139 Forrest Avenue, N.E., Atlanta, Ga.

MAY, 1935

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Articles are accepted for publication on condition that they are contributed solely to this Journal.

Manuscripts should be typewritten, double-spaced, and the original (not the carbon copy) submitted. Used manuscript is not returned unless requested.

Communications and items of general interest to the profession are invited from all parts of the State. We especially invite county society secretaries to send us information of happenings in the county that would be of interest to the members throughout the State.

Reprints should be ordered within 30 days after the appearance of an article, since all type will be destroyed at the end of that time.

"The Secretary of each county society shall report to the Journal of the Medical Association of Georgia full minutes of each meeting and forward to it all scientific papers and discussions which the society considers worthy of publication."—By-Laws, Chapter VII, Sec. 15.

BEST WISHES TO NEW EDITOR

In turning over the affairs of the Association to my most able successor, Dr. Edgar D. Shanks, who will become Editor of the JOURNAL with the June issue, having been elected Secretary-Treasurer, I extend to him my best wishes for a happy and successful term of office and bespeak for him the same helpful cooperation from all officers and members that I have at all times received. May each succeeding year prove better than the preceding year. ALLEN H. BUNCE, M.D.

HEART FAILURE

Heart disease, as is common knowledge, is now Captain of the Men of Death. Angina is a common sign of a failing heart, but functional failure is even more common. Functional failure first makes itself noticed through undue shortness of breath on exertion and later edema of the ankles. The swelling increases and congestion of the lungs, liver and all parts of the body follows.

The patient with marked congestive failure when first seen is a very sick man. It is true that when such a patient is confined to bed and kept at perfect rest with a limitation of fluid intake and of salt, in the course of a few weeks without further treatment he will often lose the accumulation of water. Some cardiologists of great distinction have taught that this was the proper treatment. This is open to serious argument: in the opinion of some it is absolutely wrong.

The patient with severe congestive heart failure presents as much of an emergency as the patient with acute appendicitis. Many patients with acute appendicitis will recover from the first and perhaps even from subsequent attacks with no treatment beyond rest in bed, an ice pack and suitable diet, but this does not constitute a valid argument against operation in the average case. The patient with congestive heart failure may have fifty pounds of water in his body that do not belong there and this water not only serves as a further embarrassment to his already overtaxed circulatory apparatus but it has invaded every cell in the body and is interfering with the metabolism of every cell. It would, therefore, seem logical to get rid of this water as quickly as possible.

Before embarking on drastic measures it is advisable to determine the type of heart disease present. If failure result from goiter or syphilis, one must be cautious, but if it be the result of hypertensive or arteriosclerotic heart disease, the most common type, or of rheumatic heart disease, fortunately uncommon in this part of the country, it is time to bring up the heavy artillery. Morphine in large doses is the first drug to be thought of. Through some not well understood ac-

tion, morphine will wonderfully relieve the distress of breathlessness and is the most valuable means of promoting rest.

Salyrgan, much as we hate to give free advertisement to a proprietary preparation, is of perhaps as much value. The way 2 c.c. of salyrgan given in the vein will take fluid out of the body is extraordinary. The contraindications to salyrgan which were many when it was first introduced have been largely dissipated. We know now that, although in the edema resulting from acute hemorrhagic nephritis salyrgan is not advisable, red cells the result of chronic passive congestion of the kidneys are common in the urine of patients with congestive heart failure. The theoretical dangers of salyrgan and the dangers of intolerance in a rare case are not so great as the dangers of not using it. One dose of salyrgan has drawn out as much as three gallons from a waterlogged patient, but two or three quarts are more commonly noted. The relief following the loss of even eight pounds of water is often striking.

Digitalis has been the sheet anchor in the treatment of heart disease for more than 150 years and it must not be neglected here. If the physician is reasonably satisfied that the patient is not suffering from goiter or syphilis, in the opinion of many digitalis should be begun at once, and in massive doses. Fifteen one and a half grain tablets will digitalize the average adult. Eighteen or twenty would probably not injure him. Granting that very rapid digitalization is not altogether devoid of danger, one must remember that desperate diseases need desperate remedies: the operative mortality in acute appendicitis is far from nil.

Depending on the emergency of the case, one may give 6 tablets stat, repeating in four to six hours with 4 more tablets six hours later. One may give 4 tablets and repeat every four hours until four doses have been given, or 3 tablets four times a day, or 2 tablets three times a day. It must be remembered that the necessity for giving digitalis other than by mouth depends almost wholly on vomiting, the result of passive congestions of the viscera: such vomiting must not be misinterpreted as the result of digitalis poisoning. One must remember too that digitalis may

be absorbed slowly, and it may be twenty-four hours or even longer before the optimal effect is obtained. If after $22\frac{1}{2}$ or 30 grains of digitalis have been administered, the digitalis effect has not been secured, it is unwise if not useless to continue large doses: Of course, every physician is familiar with the common signs of digitalis poisoning, the well known nausea, vomiting and abnormal slowing of the heart. Anorexia, diarrhea, headache, coupled beats, psychic disturbances, particularly disorientation and confusion, visual disturbances, such as blurring or colored spots before the eyes, and increasing tachycardia are not so well known.

Once the patient is digitalized there is only one way to determine the optimal dose of digitalis, and this is the method of trial and error. Three grains of digitalis a day is a good dosage to try out. Although this will prove too much for some patients, many more do not receive the greatest benefits from digitalis because they don't take enough. If, on this dosage, the patient is not doing well, the omission of digitalis on two days in the week may be advisable. Or it may be best to give him only one tablet a day. But a patient who does well with $1\frac{1}{2}$ grains of digitalis at bed rest may not do well on that dosage when up and about.

The great disadvantage of the radical method of treatment outlined here is that in four or five days the patient is so much better that he may consider himself as well as ever. Especially if he is (or considers himself) a most important person in his profession or business, as so many hypertensive men of middle age or a bit beyond are, he may insist on getting up and going back to work without further ado. Such a course carries with it a great risk. He should be made to realize, with the aid of his wife, his friends and of consultants if need be, that his heart was utterly exhausted, and that he must spend weeks in bed to accumulate a little reserve. The more conservative treatment on the other hand, keeps him uncomfortable long enough for him to gain a better idea of the gravity of his condition. The accumulation of reserve through rest is of the greatest possible value in postponing the next break.

Once a patient has suffered from congestive heart failure, although he may go for many years without a second attack his heart is in danger of failing again and it is not so apt to respond satisfactorily to treatment a second time. He should therefore always live well within his physical income.

—L. M. B.

BOOKS RECEIVED

Surgical Pathology of the Peritoneum, by Arthur E. Hertzler, M.D., Surgeon to the Agnes Hertzler Memorial Hospital, Halstead, Kansas; Professor of Surgery, University of Kansas. Contains 204 pages with 201 illustrations. Publishers: J. B. Lippincott Company, Philadelphia, Pennsylvania.

Economic Problems of Medicine by A. C. Christie, M.D., Professor of Clinical Radiology, Georgetown University Medical School; President, Fifth International Congress of Radiology; Formerly President of the Medical Society of the District of Columbia, the American Roentgen Ray Society, the American College of Radiology and Member of the Committee on the Costs of Medical Care. Contains 242 pages: The Macmillan Company, 60 Fifth Avenue, New York City. Price \$2.00.

BOOK REVIEWS

A Textbook of Surgery, By W. Wayne Babcock, A.M., M.D., LL.D., F.A.C.S., Professor of Surgery and of Clinical Surgery in The Temple University; Surgeon to The Temple University Hospital and to the Philadelphia General Hospital, Chief of the Surgical Service, U. S. General Hospital No. 6, 1917-1919. Second Edition, Rewritten. 1312 pages with 1032 illustrations and eight plates in color. Philadelphia and London: W. B. Saunders Company, 1935. Cloth, \$10.00 net.

As the boy mirrors the man, so this volume mirrors the efficiency and resourcefulness of its writer. He has made a textbook of surgery a working treatise of pertinent information which is delightful to read instead of an abbreviation and catalogue of various surgical conditions.

This volume, which is in its second edition, has been thoroughly revised and brought up to date. Many new sections have been added. Those on the parathyroid glands, the duodenum, the mesentery and omentum are especially interesting.

The technic of all important operations mentioned is at least briefly described and illustrated and, along with these the preoperative and postoperative treatment is given in detail with routine orders and warnings that have proved of value, a point in which most textbooks of surgery are woefully lacking. This should be of distinct worth to students as well as the practicing surgeon.

The recent important work on surgery of the

ductless glands including tumors of the suprarenals, pancreas and parathyroids has been well described. Also the operative technic of surgery of the lung and heart is extremely valuable. The other sections on neurosurgery and genito-urinary diseases have also been revised and are particularly interesting, making the whole work remarkably complete.

My impression in reviewing this textbook is that the author has very successfully eliminated a great mass of unessential facts and has given minute attention to the more important ones. From the standpoint of both the student and the practicing surgeon, I consider that he is to be congratulated in making his work so delightful to read and still so correct in detail.

J. GASTON GAY, M.D.

Burns. By George T. Pack, B.S., M.D., and A. Hobson Davis, B.S., M.D. Cloth. Pages, 364, with 60 illustrations. Philadelphia and London, J. B. Lippincott Company.

This book ranks as one of the outstanding medical books of current publication, and is certainly the "last word" on the subject of burns. It impresses the reader with the seriousness of burns and challenges the profession at large for the inadequate, haphazard, and frequently antiquated methods of treatment employed. This is largely due to the lack of appreciation of the results of the vast amount of research and experimental work that has been done in the last decade which has led to the newer methods of management.

The volume is divided into three parts, and the first is headed *Fundamental Facts Concerning Burns and Scalds*. This includes the significant features in the history of burns, their classifications, local and general tissue changes produced, blood and urine changes and poisons produced, symptoms, diagnosis, complications, prognosis and cause of death. Numerous references are listed at the end of each chapter for further amplification of the necessarily brief statement of facts therein. Probably the most important pathological fact to be borne in mind in the treatment of burns concerns blood concentration. "The rapid and continuous loss of fluid from the blood in burned patients quickly induces a marked concentration of the blood. This becomes a factor of the greatest importance in the development of the syndrome characteristic of burns, and a factor of prime significance in the fate of the person concerned. Marked concentration of the blood means a failing circulation, an inefficient oxygen carrier, oxygen starvation of the tissues, fall of temperature, and finally, suspension of vital activities." As to poisons produced in burns, "the present consensus of opinion favors the burned tissue as the source of the toxin, which is absorbed and circulates in the blood, being carried by the red blood corpuscles."

PART II.—*The Management of Thermal Burns*. The immediate and systemic therapy is outlined and

its importance as the first and paramount procedure to be instituted is emphasized. Then, every known form of local treatment is discussed and a comparison made. The chapter titled, *Use and Abuse of Wet Dressings*, should be read by everyone who undertakes the treatment of burns. A short resume is given of the principles and practice in the treatment of burns by tannic acid, one of the most important contributions to burn therapy during the twentieth century. Skin grafting and the prevention and correction of deformities are discussed.

Part III includes regional burns and those produced by a specific agent. Burns by electricity, lightning, x-ray, radium, caustic chemicals and a most interesting chapter on burns produced by war gases are included. The book ends with the medico-legal aspects of burns and scalds.

EDGAR BOLING, M.D.

GASTRO-INTESTINAL COMPLICATIONS OF PULMONARY TUBERCULOSIS

(Continued from Page 187)

All anal fistulas in tuberculous patients should be given the benefit of operation unless they are far advanced cases.

The treatment of intestinal tuberculosis, in brief, is heliotherapy, diet, drugs, and surgery.

Erickson treated eighty positive cases with heliotherapy, 85 per cent showing an improvement of symptoms. Symptoms were entirely relieved in 25 per cent, improved in 13.5 per cent, and unimproved in 14.8 per cent. Improvements should begin in one to three months. In the above series, 45 per cent show definite improvement in one month, 16 per cent in two months, 16 per cent in three months, 1 per cent in longer than three months. Pain, nausea, and vomiting are the first symptoms to be relieved. Constipation is less affected.

Cod liver oil is essential, for it increases the calcium, phosphorus, and vitamine assimilation. Orange or tomato juice is always indicated. Calcium, intravenously, is a valuable adjunct. Castor oil is used for flatulence. Diet now is not considered as valuable as formerly.

Summary

1. Of 90,000 deaths occurring yearly in the United States from tuberculosis, 40-60,-

000 are due to intestinal tuberculosis. There is no pathognomonic sign of the condition.

2. Two hundred gastro-intestinal cases, eighty-four of them negative for tuberculosis, are presented and compared.

3. The most common site of intestinal tuberculosis and its morbid anatomy is discussed.

4. The underlying pathology and physical response in ulcerative entero-colitis is increased intestinal irritability manifested by hypermotility, hence, diarrhea is an important symptom. The causes of diarrhea are given and discussed.

5. Irritating non-tuberculous etiological factors that must be ruled out to make a diagnosis are stated.

6. Characteristics of intestinal tuberculosis are given.

7. The value of gastric lavage is demonstrated.

8. Necropsies show that intestinal tuberculosis occurs in 50-80 per cent of all pulmonary tuberculosis.

9. Difficulty of diagnosing ulceration by x-ray in certain gastro-intestinal regions is discussed.

10. A report is made from the literature on two cases of localized tuberculosis of the jejunum without pulmonary tuberculosis.

11. Clinical indications for x-ray study of the intestinal tract are given.

12. X-ray study of the intestinal tract is discussed.

13. Hyperplastic tuberculosis of the ileocecal region is discussed.

14. Anal fistulas should be given benefit of operation except in far advanced cases.

15. Sequelae of intestinal tuberculosis are named.

16. Treatment is described.

17. Indications for surgery are given.

18. The statistics in ambulatory intestinal tuberculosis, as reported in this paper, are found to be almost identical with those of sanatorium series reported in the literature.

Finally, the results of gastro-intestinal complications such as vomiting, belching, burning, insomnia, loss of appetite, nausea, nervousness, etc., are a part of a vicious cycle, and must be treated diligently.

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Chairman Public Relations—Mrs. Evert A. Bancker, Jr., Atlanta.

Chairman Press and Publicity—Mrs. J. Bonar White, Atlanta.

Chairman Legislation—Mrs. Dan Y. Sage, Atlanta.

Chairman Students' Loan Fund—Mrs. Benjamin Bashinski, Macon

DOCTOR'S DAY—MARCH 30, 1935

Whereas, we have information in reference to histories of sailors and soldiers, discoveries and inventions, kings and statesmen, saints and craftsmen, but omit the history of struggles of the medical profession in its unwearied efforts to make human living easier and a real force in upbuilding our civilization.

Whereas, these seekers of truth, the practitioners of the "Healing Art," have made struggles and sacrifices in the defense of humanity, to prevent illness and prolong life.

Resolved, by the Woman's Auxiliary to the Medical Association of Georgia, that March 30th, the anniversary of the discovery of ether anesthesia by Dr. Crawford W. Long, be adopted as "Doctors' Day." The object is to promote the wellbeing and to honor the profession, both living and dead, and to study their preservation of health: through the ages; to observe it by some gift, act of kindness or tribute, annually on March 30th.

AUXILIARY ACTIVITIES

On March 30th, the Barrow County Medical Auxiliary, inaugurated the commemoration of Doctors' Day, which was recorded in this Journal. At the state convention, May 11, 1934, in Augusta, Barrow County Auxiliary introduced a resolution asking for state observance of the day. This was adopted unanimously.

This chairman sent material to 34 counties. It included an explanation of Doctors' Day, for publicity, the resolution, and suggestions for the day. We are reporting some of the observances in different districts.

Where possible, the Auxiliaries entertained at receptions or dinners—among these were: Barrow, Bibb, Chatham, Cherokee-Pickens, Fulton, Ware, Washington, and Richmond

counties. Special Doctors' Day programs were prepared, all including the reasons for commemorating the day, and most of them a tribute which reviewed the faithful services of the medical profession in the alleviation of suffering and prolonging human life, and the outstanding heroes of medical history.

Among unique features of some programs were: Chatham, a Grand March led by Dr. and Mrs. W. R. Dancy, and a skit written by Mrs. W. M. Myers, of Savannah, called "The Doctors' Telephone Exchange." Mrs. Lee Howard read a tribute and salute over the Savannah radio station. It is noteworthy that press notices in this county and outside interest were so fine, that this Auxiliary is very proud of its success in accomplishing the purpose of Doctors' Day. Editorials in Chatham, Barrow and Dougherty county papers were outstanding. A poem, "His Mission" by Dr. R. M. Thompson, was published, and we hope more Auxiliaries use it next year. Cherokee-Pickens Auxiliary had Mr. G. G. Strange, College Park, Custodian for the Crawford W. Long Exhibit at the Century of Progress Fair at Chicago, tell some of the little known facts concerning the origin and success of the exhibit.

The Fulton Auxiliary entertained the Fifth District Medical Society to a buffet dinner, over 220; had a memorial of white carnations for the departed and Mrs. Yampolsky, Fifth District Manager, Mrs. Bonar White, Third Vice-President of the National and President of the Southern Auxiliaries, broadcasted over WSB in Atlanta. Mrs. Yampolsky said, "Today, March 30th, is the anniversary of the day that great Georgian, Dr. Crawford W. Long, performed the first operation using ether anesthesia, thus giving to the world one of its most marvelous and potent gifts. Because many people, including Georgians, are unaware of this and other discoveries and inventions of the medical profession and related medical arts, which have

made life safer and happier, the Woman's Auxiliary to the Medical Association of Georgia, has set aside this day, beginning this year, to honor those men and women, living and dead, who through their struggles have changed our destinies and shaped our civilization in their defense of human living. To remind us that we have joys in living today, which former times did not experience and that those are due to the unselfish and unwearied labors of the medical profession through thousands of years. The Auxiliary is commemorating the events and heroes today. The first Doctors' Day was inaugurated in 1934, by the Barrow County Auxiliary." Mrs. White read the tribute and salute prepared for Doctors' Day.

The Ware Auxiliary prepared favors for their dinner, telephones for the Auxiliary, O.B. bags for the Society. Mrs. J. E. Penland was toastmistress. Each member introduced her guest, and told something about him. Dr. Williams of Blackshear gave some recollections of early practice in Ware County and one doctor was requested to tell why doctors refuse to take their own medicine, while a surgeon told why doctors hate operations on themselves. A debate, "Resolved, that it is the husband instead of the wife who puts the tell in telephone." Mrs. Ansley Seaman was affirmate and Dr. Kenneth McCullough negative. The *negative* won.

Mrs. Penland remarked "That the public thought that the physician should be as gentle as a dove, as cautious as wrens, have the home life of love birds, the night hours of owls, the appearance of peacocks and the collections of canaries."

Washington Auxiliary made its dinner one of great beauty, using spring flowers in a variety of decorations. Besides the explanation and tribute, to the life of Dr. Long and of Dr. Herty were read.

Many Auxiliaries had the graves of doctors and their wives decorated with garden flowers; flowers sent to the offices of the doctors, and where the society was small and scattered, greetings were sent. For example, Colquitt paid the honors and sent sixteen letters. Barrow, Ware and Dougherty also showed special attention to graves.

Through articles in the newspapers, information was given to the public. By observing Doctors Day, the Auxiliaries showed their societies their appreciation of the medical profession and medical arts. They gave relaxation through their programs and dinners, and by their friendly efforts brought happiness to the societies and to themselves. We like to remind our members that the most

important assets of the healing art are the men and women in it and that to honor and care for them is our right and privilege. Doctors' Day has aroused interest in the entire South. Other states, hearing what the Georgia Auxiliary sponsored this year, have sent inquiries and are requesting approval of their state conventions for celebrating Doctors' Day in their states.

We regret some counties did not send reports in time and that we could not give details of all who did.

In 1930, when Mrs. S. A. Collum, Sr., was President of the S. M. A. Auxiliary, the Auxiliary adopted as a project, the writing of the "Research in the Romance of Medicine." This includes the outstanding medical discoveries and inventions of southern physicians, the story of medical education in the South, the lives of physicians of the South who have made special contributions to the life in the southern states. This work is still in progress, and when concluded, will be published. Auxiliaries are urged to study the reports printed annually and to take one meeting each year to become familiar with them. There is no better preparation for Doctors' Day. How can we expect others to become interested and to have their interest satisfied, about the physician and his art, if we the wives are uninformed? Beginning September 1935, the Southern Auxiliary will begin a regular lending library, borrowers paying postage for papers. This year, we are including the papers on health education and public relations prepared by Auxiliary members, and given either at Auxiliary meetings or to lay organizations. Please send your contributions, three copies, typed one side of sheet to Mrs. D. N. Thompson, Elberton, as early as possible, by June 1st would be preferable

Notes

Among important state offices held by Auxiliary members, this month, we note: Mrs. Julian Quattlebaum, Savannah, President of the Georgia A. University Women; Mrs. Thomas P. Waring, Savannah, President of the Georgia Society Colonial Dames; and Mrs. Raymond Johnson of Waycross, on the Board of Directors. Mrs. James H. Downey, Gainesville, is Historian for the Georgia Society, Daughters of American Colonists; and Mrs. Y. H. Yarbrough of Milledgeville is Auditor.

GEORGIA DEPARTMENT OF PUBLIC HEALTH

T. F. ABERCROMBIE, M.D., *Director*

TOO MANY ANTIRABIC TREATMENTS

According to G. A. Denison, Director of the Jefferson County Health Laboratories of Alabama, Birmingham has until quite recently been the rabies capital of North America. During a period from 1929 through 1933, one person in every 96 took antirabic treatment, the total number of persons treated being 2,703. Recently conditions have greatly improved in that city, due to a vigorous enforcement of compulsory vaccination of dogs with destruction of strays and ownerless animals. At the present time stray dogs are being killed in Jefferson County, Birmingham, at the rate of 5,000 a month. Rabies has greatly diminished.

Denison has recently published in the *Journal of the Medical Association of the State of Alabama*, March, 1935 issue, a most excellent and informative paper on rabies. Every physician should read it. Very closely do his experiences conform to those of the Georgia Department of Public Health. The following quotations are particularly worth while reading.

"There is probably no disease about which the laity is more misinformed than rabies. Their fears, horrors and wild superstitions, coupled with a superabundance of bad advice and fairy tales obtained from well meaning friends and neighbors, often cause them to be in a state of panic before a physician is reached. Circumstances of exposure so infinitely remote as to make the possibilities of infection ridiculous and unworthy of even momentary consideration often cause such extreme mental anguish that nothing short of vaccine treatment can prevent nervous collapse of the individual. If rabies were as highly contagious as the general public conceives it to be, the disease would outrank tuberculosis as a cause of death."

This state of exaggerated conception regarding the infectiousness of rabies applies to Georgia as well as Alabama. How many physicians are prepared to give sensible and sound advice to persons afflicted with what might be termed rabophobia? This commentator knows from long experience that too many physicians and health officers are prone to the conservative policy of advising antirabic treatment in every case of dog bite without taking the trouble to become informed as to fundamental facts about the disease. In this respect Denison is of the opinion that

probably 90 per cent of all antirabic treatments are unnecessary. This does not mean that the physician is responsible for this 90 per cent superfluity. But it may mean that in many instances the doctor, forearmed with knowledge readily available to him, could prevent many foolish and entirely unnecessary treatments.

Denison outlines briefly and concisely the criteria upon which the need for antirabic treatment may be based in nearly every instance as follows:

TREATMENT IS NOT ADVISABLE FOLLOWING

1. Contamination of old cuts, sores, abrasions, scratches, hangnails, etc., with saliva of known rabid animals.
2. Handling, eating after, sleeping with, kissing or other intimate exposure to rabid animals.
3. Drinking milk of rabid cows, eating meat of rabid animals.
4. Bites of any animal living fourteen days from the time of biting.
5. Bites from fleas from rabid animals.
6. Any exposure to a case of human rabies other than an actual bite or contamination of fresh open wounds with saliva.

Following "Exposure" to a known rabid animal, or an animal in which the possibility of rabies cannot be excluded—

TREATMENT BECOMES NECESSARY WHEN

1. The skin is broken by a bite or scratch.
2. Fresh open wounds are contaminated with saliva.
3. The circumstances of exposure in infants and young children are unknown.
4. Nervous or high strung women cannot be otherwise satisfied.

Your commentator agrees heartily with every item of this manual, but he is not willing to limit the neurotic cases to women. Men are at times even more neurotic and unreasonable than women.

Rabies among dogs and other animals is very prevalent in Georgia and in fact throughout the nation. Judging from the positive laboratory findings and from the number of treatments demanded of the Georgia State Health Department, the disease seems to be increasing.

Space does not permit at this time a lengthy discussion of methods of control. While the infection in dogs is widespread all

over the State, there is very little that the State government can do toward the control of rabies, except in an educational and advisory way. The enforcement of dog laws is a local problem, and must be carried out by county and municipal authorities. Even so, very little can be accomplished locally without the cooperation of the public. The recently adjourned legislature passed a compulsory dog vaccination law which, if the Governor had signed it, would have given local county and municipal governments considerable support. Yet other states have passed such laws only to have them recinded later as a result of their inadequacy and unpopularity. It is probable that the Georgia law as it read would have ultimately met the same fate. Nevertheless the fact that for the first time in Georgia's history a dog control or rabies control law actually received legis-

fine. Further, laws should make the owner clearly responsible for the damage his animal may inflict. In any case he should be liable for the cost of medical care when persons bitten are required to take antirabic treatment.

It has been truthfully said that the dog is man's best friend. We can also say without fear of contradiction that, in present times, man is not only the dog's worst friend, but also its best enemy. To allow one's dog to run loose in the streets of Birmingham is (as far as the dog is concerned) as ungrateful and ruthless as allowing one's child to play in the wards of a contagious hospital."

T. F. SELLERS, M. D.
Chief of Laboratories.

COMMUNICATIONS

MEETINGS OF COUNTY SOCIETIES

To the Editor:

The Burke, Jenkins, Screven Medical Society met last Thursday night; the Georgia Medical Society, Savannah, met Tuesday night; the Tattnall County Medical Society met Wednesday at 2:00 o'clock, P.M.; the Montgomery, Treutlen, Wheeler Counties Medical Society and the Bulloch, Candler, Evans Counties Medical Society, both met on Wednesday night. How is that for activity in the First District? Thanks for and to your help.

Millen, Georgia. CLEVELAND THOMPSON, M.D.,
April 11, 1935 *Councilor, First District.*

HONORARY MEMBERSHIP

To the Editor:

Yours to hand enclosing an honorary membership card to the Medical Association of Georgia and the American Medical Association for 1935. Please accept my thanks.

It reached me on Good Friday and I have never received an Easter card that gave me as much pleasure.

I became a member of the Bibb County Medical Society in 1879, then the Macon Medical Society. I was an active member as long as I was able.

I am now in my 78th year and for the past few years have been unable to do my full duty. Therefore, I appreciate the more this honorary membership.

When I die, I would rather have as my epitaph: "He was a member of the Bibb County Medical Society, the Medical Association of Georgia and the American Medical Association"; then to have written: "He was governor of Georgia."

Providence permitting, I will be with you in Atlanta in May.

Again thanking you, I remain

Yours truly,

Macon, Georgia. N. G. GEWINNER, M.D.
April 23, 1935.

TABLE COVERING FIVE YEAR PERIOD

Year	Humans treated in Georgia	Animal heads examined	Animal heads showing negri bodies of rabies
1931	1789	803	351
1932	1748	791	343
1933	2335	951	382
1934	2995	1110	507
1935 1st Quarter.	876	331	170

lative endorsement is an encouraging indication that the rabies problem is being taken seriously.

While the present method of immunizing dogs against rabies with antirabic vaccine is apparently of value, the vaccine is by no means perfect and should not be relied upon in any instance where a dog is known to have been bitten by a rabid animal. Mass immunization of dogs in a rabies infected locality, coupled with the thorough destruction of all stray and unvaccinated dogs, always produces good results, as long as the enforcement authorities are supported by public sentiment and cooperation.

Again quoting Denison, "A further difficulty in law enforcement is that punishment usually must be visited on the wrong party. We question the sincerity of many dog lovers who in the past have strenuously opposed compulsory confinement and vaccination measures which are aimed to protect the animal against a disease having a mortality of 100 per cent. For every dog found running at large some owner should be made to appear in police court and pay a

A CARD OF THANKS

I wish to express my sincere thanks to the doctors and hospital superintendents of Georgia who have responded so loyally to the questionnaires sent them. The Public Health Nurses, working under the supervision of Mrs. Abbie R. Weaver and Miss Sarah Addison, have done their part in securing the statewide cancer survey, which meant so much for the success of the exhibit of the Cancer Commission of the Medical Association of Georgia.

Respectfully,

J. L. CAMPBELL, M. D., *Chairman.*

Atlanta.

Cancer Commission.

COUNTIES REPORTING FOR 1935

Morgan County Medical Society

The Morgan County Medical Society announces the following officers for 1935:

President—W. M. Fambrough, Bostwick.

Vice-President—C. B. Palmer, Rutledge.

Secretary-Treasurer—W. C. McGeary, Madison.

Delegate—C. H. Dickens, Madison.

Alternate Delegate—W. C. McGeary, Madison.

Stephens County Medical Society

The Stephens County Medical Society announces the following officers for 1935:

President—J. H. Terrell, Toccoa.

Vice-President—E. F. Chaffin, Toccoa.

Secretary-Treasurer—C. L. Ayers, Toccoa.

Delegate—W. B. Heller, Toccoa.

Alternate Delegate—E. F. Chaffin, Toccoa.

Censors—E. F. Chaffin, J. E. D. Isbell and W. B. Schaefer.

Walker County Medical Society

The Walker County Medical Society announces the following officers for 1935:

President—F. H. Simonton, Chickamauga.

Vice-President—R. M. Coulter, LaFayette.

Secretary-Treasurer—R. F. Payne, LaFayette.

Delegate—F. H. Simonton, Chickamauga.

Alternate Delegate—R. M. Coulter, LaFayette.

Censors—B. C. Hale, S. B. Kitchens and H. F. Shields.

Ben Hill County Medical Society

The Ben Hill County Medical Society announces the following officers for 1935:

President—E. J. Dorminy, Fitzgerald.

Vice-President—G. W. Willis, Ocilla.

Secretary-Treasurer—L. S. Osborne, Fitzgerald.

Delegate—G. W. Willis, Ocilla.

Alternate Delegate—T. E. Bradley, Fitzgerald.

Censors—G. W. Willis, A. Harper, and T. E. Bradley.

Crisp County Medical Society

The Crisp County Medical Society announces the following officers for 1935:

President—T. J. McArthur, Cordele.

Vice-President—Charles Adams, Cordele.

Secretary-Treasurer—J. N. Dorminy, Cordele.

Delegate—Charles Adams, Cordele.

Murray County Medical Society

The Murray County Medical Society announces the following officers for 1935:

President—J. M. Daves, Blue Ridge.

Vice-President—R. H. Bradley, Chatsworth.

Secretary-Treasurer—E. H. Dickie, Chatsworth.

Blue Ridge Medical Society

The Blue Ridge Medical Society announces the following officers for 1935:

President—J. M. Daves, Blue Ridge.

Vice-President—J. S. Tankersley, Ellijay.

Secretary-Treasurer—C. B. Crawford, Blue Ridge.

Delegate—C. B. Crawford, Blue Ridge.

Houston-Peach Counties Medical Society

The Houston-Peach Counties Medical Society announces the following officers for 1935:

President—J. W. Story, Perry.

Vice-President—H. E. Evans, Perry.

Secretary-Treasurer—R. L. Cater, Perry.

Delegate—J. W. Story, Perry.

Campbell County Medical Society

The Campbell County Medical Society announces the following officers for 1935:

President—W. R. Camp, Fairburn.

Vice-President—R. T. Camp, Fairburn.

Secretary-Treasurer—A. J. Green, Union City.

Delegate—R. T. Camp, Fairburn.

Tri Society

(Liberty, Long and McIntosh Counties)

The Tri Society announces the following officers for 1935:

President—Geo. B. Hack, Hinesville.

Secretary-Treasurer—B. Harrison Gibson, Allenhurst.

NEWS ITEMS

The Eighth District Medical Society met at Camp Marion, St. Simons Island, near Brunswick, April 9th. Dr. Jas. E. Paullin, Atlanta, President-Elect of the Association, spoke on *The Present Economic Outlook for the Physician*; Dr. B. H. Minchew, Waycross, read a paper entitled, *Some Observations on Cataract Extractions*; Dr. Raymond L. Johnson, Waycross, *Contraceptive Evils*; Dr. J. W. Simmons, Brunswick, case report, *Cyst of Left Ovary Complicating Pregnancy*; Dr. L. A. Smith, Quitman, *Is Human Immunity Declining?*; Dr. M. E. Winchester Brunswick, *Use of Atabrine in Control of Malaria*; Dr. L. J. Ring, Lenox, *Tetany*; Dr. M. F. Haygood, Atlanta, *The Place of Surgery in the Treatment of*

Pulmonary Disease. The members were guests of the Glynn County Medical Society at dinner.

The Georgia Medical Society, Savannah, held its regular meeting on April 9th. Dr. Julian K. Quattlebaum, Savannah, read a paper entitled, *Obstructive Jaundice*; Dr. Jabez Jones, Savannah, discussed the paper. Dr. Lawrence Lee, Savannah, reported a case, *Stokes-Adams Syndrome*. Refreshments were served.

The Burke-Jenkins-Screven Medical Society met at Millen, on April 4th. A Dutch dinner was served the physicians and druggists of the three counties. Dr. Q. A. Mulkey, Millen, read a paper entitled *The Relationship of the Doctors and Druggists*; followed by a general round table discussion of the mutual problems of the two professions. The physicians and druggists plan to have other joint meetings.

The Seventh District Medical Society met at Cedar-town, April 3rd. The scientific program consisted of the following titles of papers: *Asphyxia*, Dr. R. N. Johnson, Rome; discussed by Dr. J. W. Stanford, Cartersville, and Dr. S. B. Kitchens, LaFayette. *Coronary Occlusion*, Dr. William Harbin, Jr., Rome; discussed by Dr. W. M. Gober, Marietta, and Dr. H. L. Erwin, Dalton. *The Diagnosis of Intracranial Brain Tumors*, Dr. Chalmers H. Moore, Birmingham, Ala.; discussed by Dr. J. T. McCall, Rome, and Dr. P. O. Chaudron, Cedartown. *Shortening the Second Stage of Childbirth*, Dr. W. H. Perkinson, Marietta; discussed by Dr. H. L. Sams, Dalton, and Dr. A. L. Horton, Cartersville. *Report of Fifty Cases of Cesarean Section*, Dr. A. F. Routledge, Rome; discussed by Dr. A. H. Dellenger, Rome, and Dr. H. R. Perkins, Rockmart. *The Early Diagnosis and Control of Cancer*, Dr. J. L. Campbell, Atlanta, Chairman, Cancer Commission of the Association. Dinner was served at the Wayside Inn. Officers elected were: Dr. H. J. Ault, Dalton, President; Dr. P. O. Chaudron, Cedar-town, President-Elect; Dr. William Harbin, Jr., Rome, Secretary-Treasurer; Dr. M. M. McCord, Rome, nominated Councilor for the Seventh District.

The staff meeting of the Carrollton Clinic, Carrollton, was held on April 1st. Dr. Hal M. Davison and Dr. H. C. Sauls, Atlanta, were the principal speakers. Other Atlanta physicians to attend the meeting were: Dr. O. D. Hall, Dr. B. L. Shackelford, Dr. Frank K. Boland, Dr. Jack Jones, Dr. W. G. Hamm, Dr. W. A. Selman, Dr. Claude Griffin, Dr. LeRoy Childs, Dr. J. B. Fitts, and Dr. H. H. Askew. Practically all the doctors of Carroll county and some from Haralson county attended the meeting.

The doctors of Cherokee and Pickens counties were entertained in the home of Dr. and Mrs. D. H. Garrison, Tate, on March 30th, observed as "Doctor's Day" by the members of the Woman's Auxiliary—anniversary of the discovery of ether anesthesia by Dr. Crawford W. Long.

The staff meeting of the Crawford W. Long Memorial Hospital, Atlanta, was held on April 11th. The program consisted of a discussion of mortalities; clinical talk by Dr. J. Calvin Weaver, entitled *Colossus of Roads*. Officers: Dr. M. T. Harrison, President; and Dr. C. E. Lawrence, Secretary.

The staff meeting of the Wesley Memorial Hospital, Emory University, was held on April 12th. Cases reported were: *Duodenal Obstruction*, Dr. Dan C. Elkin and Dr. Mayes; *Carbuncle of Neck*, Dr. Elkin and Dr. Mayes; *Agranulocytosis*, Dr. C. W. Strickler; *Pernicious Anemia*, Dr. Stewart R. Roberts.

The Clinical Society of the Piedmont Hospital, Atlanta, met on April 8th. Case report by Dr. C. B. Upshaw and Dr. Wm. A. Smith, *Optic Myelitis, Occurred in a Post-Operative Period*; case for diagnosis by Dr. Floyd McRae and Dr. Hugh Wood. General discussion of deaths for the month of March.

The Tattnall County Medical Society held its regular meeting at the courthouse in Reidsville on April 12th. Dr. M. A. Rountree, Reidsville, reported a case, *Peritonitis*. Dr. C. Thompson, Millen, Councilor for the First District, discussed *Peritonitis and Exhibited Specimens of Gallbladders and Ruptured Appendices*; Dr. Walter E. Simmons, Metter, discussed the reports of cases. Dr. A. C. Branch, Glennville, will speak on *Diseases of Children* at the next meeting of the Society on May 8th.

Dr. J. D. Mangham, formerly of Tifton, has removed to Alamo.

The Fulton County Medical Society met at the Academy of Medicine, Atlanta, on April 18th. Dr. W. H. Kiser, Jr., reported a case of *Laurence-Biedl Syndrome*; Dr. Lawson Thornton and Dr. Calvin Sandison, case of *Recurrent Dislocation of Shoulder*; Dr. Herbert S. Alden made a clinical talk on *Unusual Cutaneous Manifestations of Syphilis*; Dr. Edgar H. Greene read a paper entitled, *A Survey of Recent Pelvic Surgery at Grady Hospital (Colored Division)*—*Illustrated with Lantern Slides*. The paper was discussed by Dr. John F. Denton, Dr. O. H. Matthews and Dr. Jack C. Norris.

The Muscogee County Medical Society met on April 11th. Dr. J. H. McDuffie, Jr., Columbus, read a paper entitled, *Fibroids Complicating Pregnancy*. The Society has held regular meetings on the second Thursday of each month with excellent attendance and interest.

The Second District Medical Society met at Pelham, April 12th. The program consisted of: *Medical Economics*, by Dr. Jas. E. Paullin, Atlanta, President-Elect of the Association; *Uses of Digitalis; Its Action, Indications and Limitations*, Dr. Alex R. Freeman, Albany; *Renal Tuberculosis*, Dr. Rudolph Bell, Thom-

asville; *The Socialization of Medicine*, Dr. Allen H. Bunce, Atlanta, Secretary-Treasurer of the Association; *Presentation of Four Emergency Cases and Results Obtained by Operation*, Dr. I. W. Irvin, Albany; Address by Dr. Clarence L. Ayers, Toccoa, President of the Association. Officers were elected for the ensuing year. The next meeting of the Society will be held on October 8th. Dr. H. M. McKemie, Albany, will read a paper on surgery; Dr. J. R. McMichael, Quitman, medicine; Dr. W. L. Wilkinson, Bainbridge, pediatrics; Dr. H. M. Moore, Thomasville, diseases of the eye, ear, nose and throat.

Dr. Albert A. Rayle announces the opening of offices at 201-202-203 Grant Building, Atlanta. Practice limited to roentgenology, diagnosis—deep therapy.

The Georgia Medical Society, Savannah, met on April 23rd. Dr. C. F. Holton read a paper entitled, *Spontaneous, Traumatic and Therapeutic Collapse of Lungs with Illustrative Cases*; the discussion was led by Dr. T. J. Charlton and Dr. Robert Drane. Dr. M. J. Egan reported a case, *Lymphatic Cyst of the Mesentery*. Motion picture entitled *Pernicious Anemia* was shown.

Dr. and Mrs. O. N. Harden, Cornelia, entertained the members of the Habersham County Medical Society and the Auxiliary in their home on April 11th.

HONOR ROLL FOR 1935

1. Randolph County, Dr. W. G. Elliott, Cuthbert, December 7, 1934.
2. Habersham County, Dr. O. N. Harden, Cornelia, December 19, 1934.
3. Monroe County, Dr. G. H. Alexander, Forsyth, January 4, 1935.
4. Franklin County, Dr. Stewart D. Brown, Royston, January 15, 1935.
5. Dougherty County, Dr. Alex R. Freeman, Albany, January 31, 1935.
6. Hancock County, Dr. H. L. Earl, Sparta, February 25, 1935.
7. Turner County, Dr. J. H. Baxter, Ashburn, February 26, 1935.
8. Ware County, Dr. Kenneth McCullough, Waycross, March 7, 1935.
9. Whitfield County, Dr. H. J. Ault, Dalton, March 8, 1935.
10. Elbert County, Dr. A. S. Johnson, Elberton, March 15, 1935.
11. Chattooga County, Dr. H. D. Brown, Summerville, April 1, 1935.
12. Worth County, Dr. Gordon S. Sumner, Poulan, April 2, 1935.
13. Morgan County, Dr. W. C. McGeary, Madison, April 5, 1935.
14. Hart County, Dr. A. O. Meredith, Hartwell, April 12, 1935.
15. Murray County, Dr. E. H. Dickie, Chatsworth, April 19, 1935.

OBITUARY

DR. WALTER A. CROWE, Smyrna; member; Bellevue Hospital Medical College, New York City, 1881; aged 78; died at a private hospital in Atlanta on April 4, 1935. He was a member of a pioneer and prominent family of New England and southern history. Dr. Crowe began practice in Atlanta and was recognized as an authority in medicine. He practiced in Atlanta for more than thirty-five years and at one time was professor of obstetrics and gynecology in the Southern Medical College of Atlanta, member of the staffs of Grady Hospital, St. Joseph's Infirmary, and Wesley Memorial Hospital. After he retired from active practice, he devoted most of his time to his herd of cattle and nursery. Dr. Crowe was a member of the Fulton County Medical Society, Fellow of the American College of Surgeons and the American Medical Association, and the Park Street Methodist church. Surviving him are his widow, three sons, Dr. S. J. Crowe, Baltimore, Maryland; W. A. Crowe, Jr., Atlanta; A. L. Crowe, Smyrna; and one daughter, Mrs. O. Whitmore, New Haven, Conn. Funeral services were conducted from the residence by Dr. J. Sprole Lyons and Rev. J. H. Patton. Burial was in Mountain View Cemetery, Marietta.

DR. FRED YOUNG, Demorest; Georgia College of Eclectic Medicine and Surgery, Atlanta, 1908; aged 51; died at the home of his parents in Toccoa, March 29, 1935. He was a successful practitioner and had won the esteem and confidence of hundreds of people in northeast Georgia. Surviving him are his widow, parents, one sister and one brother. Funeral services were conducted by Rev. E. Kelly Barnes and Rev. S. A. Rothell from the residence. Burial was in the city cemetery at Zebulon.

THE TREATMENT OF WOUNDS

A modern writer on surgical matters has recently remarked that it is impossible to discuss the non-operative treatment of wounds without acknowledging the fundamental importance of proper preliminary surgical treatment. The application of an antiseptic may be considered as supplementary to asepsis, operative cleansing of wounds, with removal of foreign bodies, excision of traumatized tissue, and establishment of proper drainage.

For topical application an antiseptic should be used which will not destroy viable cells. The antiseptic should permit of frequent application, without danger of systemic action. It should so cover the intact epidermis surrounding the wound as to exclude these areas a possible sources of reinfection.

Merthiolate, Lilly, will, it is claimed, capably fulfill the specifications for the antiseptic as here outlined.

Merthiolate Solution, 1:1,000, is an aqueous, stabilized, isotonic dilution which is stainless (No. 45). Merthiolate Tincture, 1:1,000, is an alcohol-acetone-aqueous solution which contains a harmless coloring

matter and delineates treated areas (No. 99). Merthiolate Tincture and Solution are supplied in four-ounce and pint bottles.

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proper diet can be determined only by your doctor.

Medical science has made a deep and searching study of the entire question of food values, metabolism, and all the factors which have to do with the quantity and kind of food needed under various conditions. Your doctor is familiar with these studies, and knows how to apply that knowledge in determining the needs of *your* body.

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MEDICINE AS A CAREER*

CLARENCE L. AYERS, M.D.

Toccoa

In discussing the subject "Medicine as a Career" I am fully aware that we have a much more complex situation than we had in former years. The conditions under which we are living at present, influence the practice of medicine just as it does every other line of activity.

In the past it was a much easier proposition to become a physician and to practice our profession than at present. In the commercial and industrial world the services rendered are more exacting than formerly, and so it is in medicine. The general public is becoming more and more enlightened regarding health matters, and this increased knowledge will demand increased and more efficient medical service. The majority of those in the profession not only welcome these increased demands made of them, but are equipping themselves to meet them. The increased preliminary education required to begin the study of medicine, the more thorough medical training, the more hospital service, and the greater amount of post-graduate work now being done together with a tendency for a greater studiousness of medical literature, all show that the profession is willing and ready to meet the modern demands made on the healing art.

Medicine is the most difficult of sciences, and the most laborious of arts: it taxes the powers of both body and mind.

When one is adequately equipped by nature, education, and training to pursue the practice of medicine as a career, I know of no other calling that offers more substantial

rewards, not always of a monetary value, but certainly by the rendition of genuine service to humanity.

One of the greatest opportunities of the physician is the work of preventive medicine, in helping enlighten the general public on all health problems, such as sanitation, immunization, etc., and by helping to secure such legislation as will aid in preventing disease, thereby prolonging and adding comfort to life.

Occasionally you will hear the expression, "The average physician is not interested in public health work," but this is not the case, since the profession as a whole is fully awake to the importance and possibilities of preventive measures.

If we are to extend the full benefits of protective health measures to all the people of our state I believe that it will have to be done by those engaged in general practice, probably under the leadership of someone especially interested in that line of work. We should actively cooperate with the splendid work which is being done by the State Board of Health. Its numerous services are too well known to be mentioned on this occasion. Certainly we should commend it for its splendid efforts in carrying forward the health program through the regular medical profession, and in conducting the work of the Board in such a way as to meet the approval of organized medicine.

Another opportunity, and unquestionably our greatest one, is in the care of the sick entrusted to us. We have been entrusted with the almost divine art of healing the sick, ushering into the world a new life, and giving peace to an earth-tired spirit.

And because of this sacred trust it is our duty not only to fit ourselves for the work but to do all in our power to advance the

*Presidential address before the Medical Association of Georgia, Atlanta, May 9, 1935.

science of medicine, and to apply in a sympathetic way this knowledge to those under our care. I think it would often be helpful to us if we would for a moment put ourselves in the patient's place, and ask ourselves what we would like to have done for us. We should never lose sight of the tremendous responsibilities placed upon us. Someone has said, "He is the best physician who is the best inspirer of hope."

A few years ago we would often hear the remark "the passing of the family physician," but none would venture to offer that suggestion now. The family physician is not passing but is being brought up-to-date. The family is the unit of our civilization, and the continuance of the family home demands the preservation of the family physician, the general practitioner. The well trained general practitioner, it is estimated, is perfectly competent to take care of 85 per cent of general medicine practice, besides being equally competent to know when, where and how to seek advice and aid in the other 15 per cent, and to cooperate with the specialist in the best interest of the patient. Dr. Welch, of Baltimore, once said, "Often an ounce of confidence inspired by the family physician is more beneficial than a pound of cure."

The physician also has a supreme opportunity to render service to the community in which he lives by taking an interest in civic and social affairs that will make his town a better place in which to live. By education and training physicians are preeminently suited for such duties as members of school boards, and should be active members of some civic clubs such as Rotary, Kiwanis, etc. He should also be interested in politics at least where it affects the health of the community and state. Recognition is being given to those who contribute to life; Pasteur was voted the most valuable man who ever lived in France, and not Napoleon.

However I would not have you think that I consider a medical career one of pleasant opportunities alone—far from it. Medicine is full of hardships and ingratitude. As to whether the practice of medicine is a pleasure or a burden depends largely on the type of patient with whom you have to deal. The smile of gratitude coming from some child

or adult, though he may be an indigent patient, is more satisfaction to the physician than a few paltry dollars coming from some miserable wretch who after having received your very best efforts, heaps upon you in the community an avalanche of undeserved criticism.

"You will find that some people will almost idolize you as long as you have neither unfortunate cases nor deaths in their families and will, as soon as either occurs, turn as rudely and maliciously against you as if you kept the Book of Life and controlled the hand of God."

No man has such unlimited opportunities to study human nature, its traits, virtues, and shortcomings as has the physician. No man has such a wonderful opportunity to find out just how debased and ungrateful a certain per cent of the human family can be.

After you have treated a fractured arm and used every precaution to secure good results, should the patient have a slightly crooked arm he threatens you with a damage suit.

After you have lost sleep and inconvenienced yourself in many ways to attend a confinement case, a few of them attribute every ailment the patient has from that moment until she goes to her grave to something you did, or should have done at the confinement.

After you have spent nights and days administering to an injured child, and finally present your bill, you get a notice that it is settled by a bankruptcy proceeding.

One might go on indefinitely reciting instances of ingratitude that you have all witnessed in your practice, but fortunately the people of this type are in the minority.

I am afraid that during these strenuous years there has been a slight tendency to depart from the ethical standards of our predecessors. This should not be so. We hear much of codes these days. Doctors may well take pride in the fact that they have worked under a code of medical ethics for more than two thousand years. The code enjoins upon doctors fair practice as between competitors, and fair practices as between doctor and patient.

The principle that medical men should

be the ones to exercise control over medical service is beyond question. A physician spends years acquiring an education that will equip him to treat intelligently the ills of the human body, but he would readily admit that his education does not qualify him to tell a railroad executive how to solve transportation problems, or a lawyer how to handle a legal case in the court room. Yet we find men with no medical training suggesting to physicians how they should practice their profession, and how they should run a hospital. Certainly each field of work will be best managed by those who know it best.

We should be constantly on the lookout for any conditions which might arise that will interfere with the inalienable right of the patient to choose his own physician.

Recently there has been an effort to secure national legislation which would seriously interfere with this fundamental practice in our profession. The proposed legislation contained in the Epstein bill is both vicious and dangerous, and would be repulsive to the profession, and unsatisfactory to the people.

We should inform ourselves regarding such legislation and pass the information on to the people, and especially our law makers.

However I do not believe that these erratic measures when once understood will ever be enacted into law. The people who advocate measures of this kind are usually those who live by emotion rather than by reason.

Thirty-five years ago Senator Gallinger introduced a bill in the United States Senate prohibiting vivisection, and frequent futile attempts have been made by other men since that time.

It is highly probable that the Epstein bill and similar legislation will suffer the same defeat.

I still believe there are enough thinking people in America to steer things in a fairly normal course. Mrs. Corra Harris, in one of her last articles had this to say, "The world is not so bad off, neither so rotten nor decadent as some people believe it is. The majority of men and women are fairly sound. It is only the babbling ends of civilization

that are going to the dogs, whether it is turned out by the universities, night clubs or intellectual radicals. There will be quite a loss from these sources for some time to come, but not enough to cause a panic in morals and courage."

Likewise we may expect sporadic attempts at socialized medicine, but I do not think we should become unduly excited, or aid in giving publicity to the 'babbling ends of civilization.' The thinking people do not want it neither do the 100,000 organized physicians.

Compulsory health insurance in the countries where it has been tried has been a failure. It is unsatisfactory to both physicians and patients, and has resulted in materially lowering the standards of services furnished, and added financial burdens to all concerned.

Likewise it is highly probable that voluntary budgeting would be shortlived and unsatisfactory, except probably in limited groups, and this I am afraid would be construed by the laity that the profession was ready to admit that some radical changes were needed.

Too much paternalism in our national and state governments is undesirable, too much paternalism in medicine would be bad. It must be recognized that the doctor is subject to the same economic forces that weigh upon the rest of society, has the same needs, desires, and ambitions, and can not be expected to find his sole reward in the satisfaction of conscience, if he is to continue to live and render this service.

We need to plan our medical economics on a basis of insisting on those who are able to pay their bills, doing so, and then we can keep our own financial house in order, and feel in a better frame of mind to care for deserving charity just as the profession has always done.

It has been my privilege and pleasure during the past year to visit every district medical society in the state, and it has been very gratifying to me to witness the splendid spirit of fellowship existing in the profession, as well as to listen to some fine scientific programs. The membership in our state association is at present the largest it has been since the beginning of the so-called

depression. It would be very desirable to have every eligible physician in the state as a member, but this has never been, and never will be.

Do not imagine because you can not enlist the support of the profession 100 per cent that the interest in organized medicine is on the decline.

Just so long as the same personnel that regularly attends the county, district, and state meetings, continues to attend, just so long will organized medicine be safe in our state.

Some men are so constituted that they can not do team work. That is more unfortunate for those individuals themselves than it is for the Association. Dr. J. N. Hall, of Denver, Col. said "The physician who does not associate with his fellows runs great risk of falling into one or two errors. Either he becomes an egotist because he fails to see the good work that others are doing, or, if of a timid nature, and faithful in his work, from knowing his own weaknesses so well, he feels that he is immeasurably behind his brothers in the profession. One can not see where he stands in the race unless he sees both those in front of him and those in the rear." I think we all agree with those words, hence I would urge all of you to warmly support our medical societies.

In this connection I wish to thank all the officers of the Association for their loyal support during this year, and also the various committees for their untiring efforts in their various capacities. Especially I would like to mention the unusual amount of work that has been done by the Cancer Commission and its splendid chairman, Dr. J. L. Campbell.

The Council, as always, has constantly been on the lookout for the best interest of organized medicine, and the public health work. I appreciate their cooperation.

I especially wish to extend my personal thanks to our most efficient Secretary for the great help he has been to me during my administration. Dr. Bunce has probably done more for organized medicine in Georgia than any man who has ever graced the Association. He knows more regarding the Association's affairs, and has given much of his time unselfishly to its work.

Also I wish to express my approval and thanks to the Woman's Auxiliary for their splendid work and fine cooperation with our Association during the year. In the line of preventive medicine they are doing a wonderful work, and we should assist and encourage them in all their achievements.

The individual members throughout the state have been very kind and loyal to the Association, and your coming together for this meeting is appreciated. It is this coming together of earnest men, each with his individual experiences, but all with a single engrossing purpose, which keeps our beloved science abreast of the times, and ever ready for the next forward step. The full and candid presentation of our varied experiences, our mistakes and failures, no less than our successes, makes possible intelligent comparison, stimulates suggestion and leads to discussion out of which each of us surely may gather somewhat of profit.

And while the scientific side of our meeting is of prime importance, I feel that we should look upon our annual coming together as more than a purely scientific gathering. Every specialty of medicine now has its Association where one can learn scientific facts to his hearts content, and so we should make our annual meetings an occasion where, in addition to the scientific programs, an opportunity for the physicians of our state, together with their wives, to know each other better and to cultivate a more congenial atmosphere among physicians' families.

No nation is stronger than the health of its people, and the medical profession is the builder and keeper of this health structure. Regardless of what other influences may enter into the health programs, America is dependent upon and looking to the regular medical profession for guidance and action. It is up to our profession to build this health structure on a foundation so firm and of material so dependable, that when the storms of quackery are hurled against it, and the threats of state medicine flash, that our medical structure will stand undaunted and unaffected and that we will still be the guardians and builders of the health of the nation.

To do this we must build well, we must render a service in keeping with American

progress, and at a price commensurate with the ability of the average citizen to pay.

The medical profession as a whole is not a group of over-chargers, but this criticism comes from the rarest exception rather than the general rule. If unreasonable charges do occur the profession should condemn it in no uncertain terms. It is by fair play and superior service that we may expect to hold the confidence and esteem of an intelligent public. This we will do, and will continue to be the builders of the health of America.

DELIVERY OF THE "BADGE OF
SERVICE" TO PRESIDENT
CLARENCE L. AYERS*

W. A. SELMAN, M.D.
Atlanta

Tonight I have the honor to speak the sentiments of hundreds of physicians in Georgia.

Two years ago, Dr. Clarence L. Ayers was unanimously elected President-Elect of the Medical Association of Georgia. From that time Dr. Ayers made the State of Georgia his training camp, and road work was one of his hobbies. He visited the district societies throughout the state to learn the medical problems of every section and at the same time preach his doctrine of "organized medicine."

This doctrine was not new to him for since his graduation from the Atlanta College of Physicians and Surgeons in 1902, he has taken an active interest in his local society. What his local society thinks of him is evidenced by the fact that he has served as secretary-treasurer continuously for thirty-three years! He was president of the Ninth District Medical Society in 1919, and served as Councilor from that district for the Medical Association of Georgia for ten years previous to his election as President.

One year ago, the mantle of leadership fell upon his shoulders and he has proved himself a knight worthy of his sword. Under his leadership a higher percentage of doctors in Georgia are members of this Association than at any time in the history of

our state. His presence at the medical council meetings, at legislative committees, or at public health gatherings could be depended upon, and he has not hesitated to speak out in meetings, on any subject that involved the medical and health problems of Georgia.

But now you are about to join another group of distinguished Georgians—"The Honorary Advisory Board of the Medical Association of Georgia." However, at this time it becomes my pleasure and honor, acting in behalf of the Medical Association of Georgia, to present you, Doctor Ayers, with a "Badge of Service". May you keep it ever bright in service to your profession and your state.

ACCEPTANCE OF THE "BADGE OF
SERVICE"

CLARENCE L. AYERS, M.D.
Toccoa

After listening to the exceedingly generous words of Dr. Selman, I am very glad indeed that my wife was here to hear them. But she won't believe it anyway. It makes me think of an incident I heard once of a preacher who was conducting the funeral of a departed husband. After hearing him wax very eloquently and very extravagantly in the praises of this departed husband, the wife, who was sitting just in front of the casket, nudged her boy and said, "John, look over in the casket and see if that is your pa." So if my wife had not heard Dr. Selman call my name, she would have thought he was giving that "Badge of Service" to someone else.

I want to assure the members of this Association that I appreciate very deeply this emblem coming from the Association, and I wish to assure them that any small service that I may have rendered to this Association has been done with a great deal of pleasure.

In going over the state for the last year, I have tried to preach organization and tried to emphasize the importance of team work. I read a little verse a few days ago on team work that expresses it better than I can:

*Delivery of the "Badge of Service" before the Medical Association of Georgia, Atlanta, May 8, 1935.

*Acceptance of the "Badge of Service" before the Medical Association of Georgia, Atlanta, May 8, 1935.

"We can't play alone in the game of life;
We're dependent, my friends, on others.
We cannot get by in the struggle and strife
Except for the help of our brothers.

"Whatever we plan, and whatever we do,
Whatever we give of our best,
Is meant to include all our doctors, too,
And add joy to the rest."

I hope that when my term of service as President is over, I may still be allowed to render a small bit of service to this Association. I thank you.

CARE OF THE NORMAL OBSTETRICAL PATIENT*

O. R. THOMPSON, M.D.
Macon

The high maternal and infant mortality in America is due to the failure of the laity to understand the importance of adequate obstetrical care; the physician's disregard of the forces of nature in performing operative deliveries to alleviate pain and shorten labor; the prevailing tendency for the physician to convert the normal into the abnormal and the failure to realize his limitations in dealing with the abnormal. Child-bearing is not purely a physiological process or essentially pathological one. The borderline between health and disease is so narrowly drawn that it is most important for measures to be instituted to keep the patient normal.

Obtaining full cooperation from the patient during the prenatal period depends largely upon the interest and attitude of the physician. If his attitude is that of "just another woman going to have a baby," requiring only an occasional visit to his office, rarely taking blood pressure or examining specimens of urine, he may expect the patient to lose interest and fail to cooperate in the management of her greatest function.

A systematic history of the patient, not only regarding her pregnancy, but also the family history, past and present personal medical history, and past obstetrical history, with especial attention to previous and pres-

ent infections which we believe to have such an important relationship to toxemia.

A complete physical examination should be made, besides the usual obstetrical examination. The blood pressure reading, weight, blood Wassermann, red blood count, hemoglobin determination and pelvic measurements should be made.

The patient should be requested to make a visit to her physician's office every two weeks during the first seven months and one visit each week during the last month. At each visit she should take a specimen of urine for analysis, have her blood pressure taken and be weighed. A red blood count and hemoglobin determination should be made each month.

The diet during pregnancy should be balanced by building up the meals around five essential articles of food, namely, milk, to supply calcium and protein; meat to supply protein; eggs, to supply protein, vitamins and iron, and vegetables and fruit, to supply minerals and vitamins.

The average gain in weight during pregnancy is between eighteen and twenty-two pounds. The mother's weight is not controlled with the idea of influencing the size of the baby, but to relieve a strain on the heart kidneys and prevent whatever influence excessive fat might have on her labor. A thyroid deficiency should be suspected in those who show a rapid gain during pregnancy, and water retention as the result of kidney impairment in those with rapid gain during the last month. Pregnant women are prone to take on weight during the later months of pregnancy, not because they eat too much, but because they exercise too little.

As the result of reading high-powered advertising, the laity has become cod-liver oil and vitamin-minded. As long as the patient is receiving the essentials of a perfectly balanced diet, there should not be any worry over vitamins. Those patients, who for various reasons are not able to take the foods containing the essential vitamins and minerals and are showing symptoms as the result of the deficiency, should receive the necessary vitamins and minerals complementary to the diet. The writer's experience in the use of viosterol and calcium in the treatment

*Read before the Medical Association of Georgia, Augusta, May 11, 1934.

of the symptoms, held to be due to calcium deficiency, has been most gratifying.

The obstetrical patient should be encouraged to take mild forms of outdoor exercise. Such diversions as golf, tennis, dancing, horseback riding, and swimming in rough waters should be forbidden. Long automobile rides should be avoided especially during the first and third trimesters. Walking and gardening are probably the best forms of exercise, but should be done as a pleasure and not carried to excess.

The physician should inform his patient as to the value of sleep and rest, when best taken and under what conditions; the value and type of daily baths; the importance and methods of obtaining intestinal elimination; the maintenance of kidney function; care of the breasts; proper clothing and other points that may have bearing on her well-being or the growth and development of her baby.

Those patients with a positive Wassermann reaction should be treated mildly but intensively throughout the pregnancy. All foci of infection should be cleared up and especially those involving the teeth and tonsils. There should not be any hesitancy in having temporary fillings made or extractions done. There is still some doubt as to the etiology of the secondary anemia so commonly found in pregnancy. The writer's best results in treating the anemia have been obtained by proper dieting and the use of Blaud's Pills containing ferric carbonate, aloes, strychnine and arsenic trioxide.

All patients should be carefully examined during the last month of pregnancy. The pelvic measurements should be checked, position and presentation of the fetus determined. Breech presentations should be converted into vertex by external version if possible without too much forceful manipulation. Those patients with a contracted pelvis should have a roentgenological study to determine the proportion between the presenting part and the pelvis.

Labor should be conducted carefully so as to avoid maternal infection, laceration of the soft parts, obstetrical shock, fetal asphyxia and damage to the fetal structures. What has our skillful prenatal care availed us if the mother is left an invalid as the result of an

infection, badly relaxed or lacerated perineum, retroverted uterus or any other after effects; if the baby is still-born or dies immediately after birth? The American business and production methods have no doubt had an influence on the practice of obstetrics. The mothers are in part to blame, by demanding shorter and less painful labors. No method can be instituted to shorten labor or make it painless without injecting an element of risk to either mother or baby.

In the hospital the nurse's routine forces the physician to use an aseptic technic, but in the home he is responsible and makes his own technic. Antiseptic solutions and safety razors are cheap and freshly laundered sheets and towels can be sterilized by baking in the oven of the kitchen stove. Rubber gloves give protection to the physician and patient, but have never prevented an infection if they were not sterile or were passed into a vulva and vagina that had not been properly prepared. The physician should refrain from doing repeated vaginal examinations. Although the greatest information can be obtained by the vaginal examination, the progress of labor can be intelligently followed by rectal examinations.

During the first stage, especially with the primipara, some analgesia should be given to lessen the suffering from the sharp-cutting, dilating pains. An analgesic not only gives the patient rest, but often tends to shorten the first stage. Pantopon and scopolamin are most valuable, but care must be taken in dosage and estimating the time of delivery. They are safe for the mother but may produce some impairment of the respiratory centers of the baby should delivery occur within three hours after administration. The writer prefers, and has had gratifying results with basal analgesia produced with pantopon, scopolamin and sodium amytal. During the second stage, nitrous oxide, oxygen and ether are the safest, retard labor less and have only an appreciable affect upon the respiratory centers of the baby. In home deliveries, where it is not possible to have the service of a trained anesthetist, ether and chloroform are the anesthetics of choice. Chloroform should not be given over a long period of time and es-

pecially to those patients showing evidence of toxemia.

Only in cases of emergency should there be any attempt to shorten the first stage of labor. "A manually dilated cervix is a manually torn cervix." Urging the patient to "bear down" before complete dilation is productive of damage to the cervix; to the supporting structures about the cervix and bladder, and does not shorten labor. Digitally dilating and stretching an edematous cervix over the presenting part is productive of an inestimable degree of cervical damage.

The fetal head, under normal conditions does not become compressed until it has passed into the pelvic cavity and reached the bony outlet and perineum. Prolonged arrest on the perineum subjects the fetus to cerebral injury and the mother to extensive relaxation and laceration of her tissues. Allowing the head to remain on the perineum for hours is a mistake. Episiotomy, properly applied and executed low forceps operation is a conservative and not a radical procedure. In the home, where the best of technic cannot be carried out, it is probably better that nature be allowed to effect delivery if possible.

Pituitrin, one of the most valuable preparations used in obstetrics, should be used cautiously during labor. The indications are limited and the following conditions should be present before its administration: Multiparity; uterine inertia; cervix completely dilated and head engaged; no mechanical obstruction, such as tumors or disproportion between the presenting part and birth canal. The dosage of pituitrin should never be more than three minims, repeated at twenty to thirty minute intervals.

During labor, and especially the first stage, the patient should be encouraged to take nourishment; fluids should be forced and the bladder not allowed to become distended.

The essential factors involved in conducting the third stage of labor are the complete removal of the placenta and membranes, prevention of infection and reducing the blood loss to a minimum. Immediately after the delivery the uterus should not be massaged unless there is evidence of softening and ac-

tual bleeding. As soon as the placenta has separated it should be expressed by squeezing the fundus and making moderate downward pressure. The writer wishes to condemn the common custom of making traction on the cord and forceful pressure on the fundus before the placenta has separated and dropped into the lower uterine segment and cervix. The procedure favors inversion of the uterus and contamination of the cervix at the vulva.

No attempts should be made to express the placenta while the uterus is relaxed. Immediately following the delivery of the placenta the anterior surface of the uterus above the symphysis should be massaged to bring about firm contraction and prevent the dislocation of the uterus into the pelvis, out of control of the operator. The uterus should be watched for one hour, after which all blood clots should be expressed from the uterine cavity, thus greatly diminishing the tendency to after-pains.

The writer wishes to recommend the giving of pituitrin immediately after the delivery of the baby. The giving of pituitrin at this time favors a more rapid separation of the placenta and holds the uterus firmly contracted, thus reducing the blood loss from the placental site to a minimum. Some form of ergot must be given, either by mouth or intra-muscularly, immediately after the delivery of the placenta to reinforce the action of the pituitrin. The incidence of retained placenta is not increased by the administration of pituitrin during the third stage.

Laceration of the vulva, vagina or cervix should be suspected in those patients with continuous bleeding in spite of a firmly contracted uterus. All lacerations of the vulva, vagina and perineum should be repaired immediately after the completion of the third stage. In repairing second degree lacerations, the body of the perineum should be built up, by approximating the muscles and fascia, the same as in secondary repair.

The immediate care of the normal newborn has been standardized, however; our knowledge of the frequency of birth injuries demands a change in the methods of resuscitating the presumably asphyxiated baby. Any baby, not breathing properly, should receive only the gentlest maneuvers in its re-

susitation. After delivery the patient should have sleep and rest. Unless there is some contraindication, a general diet should be given and the patient encouraged to eat. After the first hour the patient should be encouraged to change her position frequently, and assume a prone position several times each day. The head of the bed should be elevated for the first four days to favor drainage of lochia.

For the first few hours after delivery the quantity of urine is increased and overdistention of the bladder should not be permitted. It is better to resort to catheterization than allow the bladder to become paralyzed by overdistention. The breast should be supported and the nipples protected with sterile gauze. During the engorgement period the patient should have her fluids limited, receive saline cathartics, opiates for pain, and ice caps should be applied to the properly supported breasts.

There should not be any set routine in nursing the newborn infant. The baby should receive a complemental feeding after each nursing until the mother's milk has become established. The complemental feeding prevents an excessive weight loss and the development of dehydration acidosis. The time the patient is allowed out of bed should depend upon her condition, and especially the involution of her female organs and not upon any set date post-partum. She should be cautioned about overwork, long automobile rides, climbing stairs or indulging in strenuous exercise. A system of exercises should be prescribed to build up the tone of the muscles, especially those of the abdominal wall.

The care of the obstetrical patient should not be carried to the usual ten or fourteen days, but to the time she is restored to perfect health. Each patient should have a complete examination at the end of six or eight weeks to determine the damage incident to pregnancy and delivery. A physician who does not "carry through" until the patient is restored to health, fails in his obligation to the patient, and one who neglects to cure the lesions about the cervix, misses an opportunity to render a real service in the prevention of cancer.

MENSTRUAL DISORDERS—FUNCTIONAL TYPES*

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The normal menstrual cycle of the 28-day type depends upon coordinated physiologic activity of the anterior hypophysis, the ovaries, the uterus, and the sympathetic nerve plexus which connects these structures to each other and with the central nervous system. Perverted physiologic activity in one of these structures breaks the arc and hence the timing gear is thrown out of balance with consequent disordered menstrual rhythm. The type of disorder depends upon the part of the machinery affected. To understand the mechanism of a disordered menstrual cycle it is necessary first to understand the mechanism of a normal cycle or at least to familiarize one's self with the accepted biologic explanation of this phenomenon.

Endocrinologists now generally agree that the anterior hypophysis is the motivating factor in the menstrual act. This gland produces hormones employed in the body economy to promote growth and to regulate and control function in certain organs and glands of the body. It is this gland which determines whether a baby will grow to be a normal-sized individual or a giant or remain a dwarf or midget. It also determines the sex characteristics of the individual and regulates body metabolism. Just what effect it has on the nerve mechanism has not been definitely determined. Its relation to personality and certain habit traits is probable, but has not been proved.

During the past few years volumes have been written about the pituitary gland. Cushing's studies are outstanding. Aschheim-Zondek, of Germany; Smith and Engle, Robert Frank, Allen and Doisy, Corner and Allen, Novak and others, of this country, have made valuable studies on the pituitary and its relation to the ovaries and uterus and the part it plays in the menstrual cycle. Novak and others have applied the knowledge in a practical way in the treatment of certain menstrual disorders. J. Thornwell

Witherspoon, of New Orleans, published an article on "The Treatment of Menstrual Disorders by Hormonal Therapy; with a Report of 30 Cases," in the New Orleans Medical and Surgical Journal, April, 1934, and another on "The Cause of Primary Dysmenorrhoea and Its Treatment by Hormonal Therapy," in the May, 1934, number of the same journal. Curtis' new work on obstetrics and gynecology, contains many chapters on the functional disorders of menstruation and the endocrines in obstetrics and gynecology.

Practically all of the latest text-books on obstetrics and gynecology devote as much as one chapter to this subject, and articles in increasing numbers appear in the current journals. Quoting Novak in one of his chapters in Curtis' new book: "The early speculative era in endocrinology is over, and the field is now being assiduously and patiently tilled by many scientific workers whose efforts have already yielded much fruit." This reference applies principally to endocrinology in its relation to gynecologic problems.

Much knowledge has been acquired particularly with reference to the pituitary body hormones and the part they play in functional menstrual disorders. However, much work must be done yet, and much more knowledge must be acquired about the other endocrine glands such as the thyroid and the adrenals to show their inter-relationship with the pituitary body and the ovaries and the part the entire group plays in functional disorders as well as pathologic sequence.

Crile has shown that gastric pathology may be due to disturbances in function of the adrenal glands, and that by section of the sympathetic plexus of this gland certain pathologic processes in the stomach may be corrected. The endocrinologist must join hands with the pathologist, the internist, the surgeon and the neurologist before the picture will be completed. Only by combined study of these specialties can the finished product be produced.

Normal Menstrual Cycle

The sequence of events in the normal menstrual cycle may be described as follows: During the early period of adolescence after the growth hormone has prepared the or-

gans for proper physiologic activity and the sympathetic chain of nerves has been properly connected with the pituitary body, the ovaries, the uterus and the other endocrine glands and the central nervous system, a message is transmitted from the uterus through the sympathetic nerve arc to the pituitary body, "ready." At the same time another message is sent by the ovaries to the same gland, "ready." Immediately this "motor of the ovaries," as it has been designated, receives similar messages from all related structures. The machinery of the basophile cells is set in motion and a hormone called prolان is generated. (Aschheim-Zondek divides this hormone into two parts which they call prolان A and prolان B. Many American writers claim there is only one prolان.)

This hormone is sent to the ovaries and there acts upon a follicle and aids in the growth of the ovaries and activates in the follicle cells (granulosa cells) a hormone called theelin. This process is completed in fourteen days and the follicle matures and delivers its ovum (ovulation takes place.) As quickly as theelin is liberated from the granulosa cells in the follicle it is sent to the endometrium of the uterus and there it stimulates endometrial proliferation. The endometrial cells multiply, endometrial glands are produced and blood vessels form. This process takes place synchronously with the changes in the follicle and takes about fourteen days for completion. When the proliferative phase of the endometrium is completed, the pituitary body is so notified; the follicle being ripe and ready to deliver the ovum, also notifies the pituitary that it is ready for another stimulus.

The pituitary in response changes the nature of its hormone (or produces another hormone, prolان B) and sends it to the ovary where it ruptures the follicle, converts the granulosa cells into lutein cells and activates from these cells a hormone called progesterin. Progesterin is immediately sent to the endometrium where it changes the proliferative phase into the active or secretory phase. The time occupied during this process is approximately another fourteen days and represents the time it requires to complete the endometrium for the reception of a fertilized ovum. In

other words, all activity which has taken place during this time was for the purpose of getting the organism ready for an event which according to biologic laws is to take place at the end of twenty-eight days, namely, that the ovum which was matured on the fourteenth day and liberated from the follicles should meet a male cell to which it would unite (be fertilized) and pass to the endometrium and be received and embedded and nourished and protected and live thus to fulfill the laws of reproduction.

If the ovum is not fertilized, the endometrium refuses to receive it, and casts it off and begins to weep and to disrobe itself in the form of menstruation. In the meantime, it makes preparation to repeat the process by sending another message to the pituitary body that it is ready to repeat the cycle and the pituitary responds with the production of prolactin A again and thus another cycle begins and continues rhythmically every twenty-eight days until a fertilized ovum is received or until activity ceases through the age limit or some break in the arc takes place either in the uterus, ovaries, pituitary body or the sympathetic nerve chain in the form of a functional disorder or an active pathologic process in which there may be an amenorrhea, hypomenorrhea, oligomenorrhea, menorrhagia, metrorrhagia or dysmenorrhea.

Amenorrhea

Clinically, amenorrhea may be classified as functional, physiologic and anatomic. The functional types are divided etiologically into pituitary, ovarian, uterine and neurogenic. Since this paper is dealing with functional types the other types will not be considered.

Pituitary Types

In this type the anterior hypophysis is at fault. The chromophobe and basophil cells do not function and hence prolactin is not produced in sufficient quantity to activate theelin in the ovaries consequently the endometrium is not properly prepared for the reception of an ovum and amenorrhea results.

Aschheim-Zondek, and Smith and Engle, and others have shown that the removal of the anterior hypophysis will cause amenorrhea and that the administration of pituitary hormones will re-establish the menstrual cycle. This type individual usually

presents signs of functional disorders of the other hypophyseal cells such as obesity, hypogenitalia and hypertrichosis. The accumulation of large quantities of fat in the regions of the hips, thighs, abdomen and shoulders and the accumulation of hair on the legs, arms, lower abdomen and chest and many times on the face are characteristic signs. The basal metabolic rates may be normal or subnormal.

Ovarian Types

In the ovarian types the cause is in the follicles of the ovaries and the lutein cells. The granulosa cells fail to respond to prolactin stimulation and hence theelin is not produced in sufficient quantities to prepare the endometrium and amenorrhea results. The girl may never start, she may be late in starting, she may stop after starting on time, or she may be irregular or very scant. Frank has shown that blood estrin is very low or absent in this type, while prolactin is usually in excess. The uterus is poorly developed; it is hypoplastic and soft with small soft pointed cervix and usually occupies the extreme ante position. The girl may be symmetrically developed or she may be thin and show signs of hyperthyroidism, that is, the metabolic rate may be a normal plus or above normal limits.

Uterine and Neurogenic Types

The uterine and neurogenic types will not be discussed, but will be referred to in the treatment. In all these types the pituitary body must be considered primarily because this gland is the motor or dynamo which puts in motion and keeps in motion all other machinery concerned in the menstrual cycle.

Treatment

Treatment of the amenorrheas with gland hormones has not been very encouraging, particularly the pituitary type because in this type there is in many cases an adenoma or adenomata of the pituitary body which is responsible for the disturbance of function. In this condition hormone therapy cannot correct the disorder and serves only as a substitute.

In the ovarian type treatment is a little more encouraging. Theelin and small doses of progestin are indicated in this type. In the adolescent girl or one late in starting, one small dose of theelin may be all that is

necessary to start the cycle. During the child-bearing period more treatment will be required, sometimes with gratifying results, but usually not so encouraging. The time of the cycle, if this can be determined, is important in the administration of theelin. It will be remembered that the height of this hormone is during the fourteen day period immediately before ovulation, although many writers claim that it acts throughout the cycle. Therefore, in ovarian amenorrhea theelin should be given during this period to be followed by small doses of lutein hormone during the early part of the following fourteen-day period and another large dose of theelin, 200 mouse units, on the twenty-sixth or twenty-seventh day of the cycle, and again on the twenty-ninth or thirtieth day if no signs appear. If this line of treatment is kept up long enough, more often the cycle will be established and remain normal.

If the etiologic factor or missing link is in the uterus or in the sympathetic nerve chain which connects these structures with the central nervous system, hormone treatment is not usually indicated, particularly in the neurogenic type, although whole pituitary extract may be tried in the uterine types in the hope that a sufficient quantity of growth hormone may be furnished to further develop the uterus. Cervical irritation or manipulation may be tried in the hope that the pituitary cells may be stimulated into extra activity and thus produce an extra quantity of hormone to be utilized in developing the uterine muscle and endometrium so that theelin and progestin may complete the cycle.

In the treatment of hypomenorrhea (scanty menses) or oligomenorrhea, the same general rule should be employed as in the treatment of amenorrhea. It must be remembered that prolan A and theelin are the hormones to be employed in these disorders during the first fourteen days, to be followed by small doses of lutein hormones.

Menorrhagia, Hypermenorrhea, Metrorrhagia and Dysmenorrhea

It has been shown by Novak, Corner and Allen, Mazer and others that this chain of disorders is due to the absence or reduced production of prolan B and the absence or insufficient quantity of the lutein hormone,

progestin. The same etiologic factors may be present as in the amenorrheas and hypomenorrheas, except that the prolan B cells in the pituitary and the lutein cells in the ovary are inactive in this chain of symptoms.

Excessive bleeding may take place in the adolescent girl, the child-bearing woman or during the menopause. In either case pathologic causes, whether local or constitutional, must be ruled out. Often in young girls an eroded cervix may give rise to excessive and persistent bleeding. This is also true in later life. Cervical cancer or uterine cancer or polyps must not be overlooked. Bleeding fibroids are very often the cause of these symptoms. Pelvic inflammatory disease may cause excessive bleeding. Constitutional diseases such as influenza and certain blood diseases may cause menorrhagia. The functional must be differentiated from the pathologic before intelligent treatment can be instituted. In functional menorrhagia and the other allied disorders hormone treatment is encouraging.

Treatment

The treatment of these signs resolves itself into the problem of supplying the missing hormone. If prolan B is deficient, the lutein hormone or progestin will be deficient and since it has been shown by Novak, Corner, Allen and others that functional menorrhagia is due to deficient progestin or an imbalance in estrin and progestin, the logical plan is to supply progestin in sufficient quantities to balance the action of estrin. This can be done by the administration of antuitrin S, which stimulates the production of progestin or by supplying progestin itself. The time of the cycle is important in the administration of antuitrin S or any of the lutein preparations.

It will be remembered that these hormones are produced normally during the fourteen-day post-ovulatory or pre-menstrual period of the cycle. In the light of this knowledge they should be administered during the last two weeks of the cycle and during the hemorrhage. In metrorrhagia they should be given one or two days before the fourteenth day. In dysmenorrhea treatment should continue through the last two weeks of the cycle.

I have been employing ergot aseptic, fifteen cubic centimeters, injected into a deep

muscle, in conjunction with antuitrin S in treating profuse and prolonged menorrhagia provided dysmenorrhea does not accompany the hemorrhage. Sistomensen tablets have been given routinely during the past six months, one three times daily during the last two weeks of the cycle. Good results have been noted in at least 80 per cent of the menorrhagias and dysmenorrheas.

If appropriate hormone therapy fails to relieve menorrhagia, x-ray or radium therapy must be considered. Occasionally a curettage will give relief, however, improvement is usually only temporary.

Report of Illustrative Cases

Case 1.—Mrs. H., aged 26, weight 180 pounds, married 8 years, no children and no pregnancies. Had not menstruated during the past year; before that time it was very scant and irregular. No pathology was demonstrated. Large quantity of fat deposited about hips, abdomen and thighs; distribution of thick black hair on legs, lower abdomen and chest were noted. Diagnosis: Pituitary amenorrhea. Treatment: Amniotin, theelin, agomensen and anterior pituitary extract were given over a period of six months. Results: No change.

Case 2.—Miss J., aged 17, never menstruated. No pathology or abnormalities demonstrated. Diagnosis: Functional amenorrhea, ovarian type. Treatment: She was given 1 c.c. of amniotin (Squibb's) daily for seven days and then given follicle and lutein hormone three times daily for twenty-eight days. Results: On the twentieth day she began to menstruate and menstruated for four days and has been regular ever since.

Case 3.—Miss J., aged 18, sister of case No. 2, complained of skipping two to four months after each period. Diagnosis: Functional oligomenorrhea and amenorrhea. Treatment: She was given amniotin and sistomensen tablets from Feb. 18, 1933 to July 31, 1933. Results: Menses much more normal.

Case 4.—Miss S., aged 19, complained of constant bleeding for the past two years. No pathologic process could be demonstrated. Diagnosis: Functional menorrhagia. Treatment: Antuitrin S, 100 mouse units were given daily. Results: She stopped menstruating after she had been taking treatment twenty-five days. During the following year she was too free occasionally and the flow was prolonged beyond four days at times. From one to two injections of antuitrin S were enough to control the hemorrhage. To the hormone, ergot aseptic was added occasionally when the flow was very profuse and not accompanied by pain.

Case 5.—Miss H., aged 22, complained of menstruating every two weeks. No pathology was noted. Diagnosis: Functional metrorrhagia. Treatment: Antuitrin S, 100 mouse units, given hypodermically on the twelfth and fourteenth day of the cycle. Results: She became regular every twenty-eight days and remained normal for four months; then she again men-

struated every two weeks. Treatment was repeated and she has remained normal ever since.

Case 6.—Miss A.B., aged 19, complained of pain during the first, second and third days of the flow. Diagnosis: Functional dysmenorrhea. Treatment: Antuitrin S, 100 mouse units, given weekly during the last fourteen-day-period of the cycle, the last dose the day before she was due. Results: This patient began treatment during the early part of April, of this year, and has had only two periods since, however, they were free from pain.

Case 7.—Miss F.B., aged 22, sister of case No. 6. When she worked hard she menstruated every two weeks. She was always too free and it lasted several days, being very painful the first day. No pathology demonstrated. Diagnosis: Functional hypermenorrhea, dysmenorrhea and metrorrhagia. Treatment: Antuitrin S, 100 mouse units, given on the twelfth day of the cycle and on the sixteenth day and again on the twenty-seventh day. Sistomensen tablets, one three times daily during the last two weeks of the cycle, were given. Results: Treatment was started March 20, of this year, and up until the present her pain has been absent, her flow not so free and she has been regular.

Case 8.—Mrs. B., aged 44, married 25 years, two children living, aged 19 and 22, mother of case No. 6 and case No. 7. Complained of pain in kidney region, head and legs during her periods. No pathology was demonstrated. Diagnosis: Functional dysmenorrhea. Treatment: She was given antuitrin S, 100 mouse units, every three or four days during the last two weeks of the cycle. She failed to menstruate; then she was given theelin, 1 c.c. every three to four days, for the next thirty days. She menstruated freely with very little discomfort. Since that time she has been getting theelin and theelol capsules the first two weeks of her cycle and antuitrin S for pain during the period. She began treatment January, of this year. Results: Greatly improved.

Conclusions

1. Endocrinology, particularly as it applies to gynecology, is occupying the attention of many writers and clinicians and will play a great part in the treatment of many gynecologic problems which formerly were treated incorrectly or not at all.

2. Some of the functional types of menstrual disorders are amenable to hormone treatment.

3. The time element of the cycle should be considered in the administration of either follicle or lutein hormone. The first fourteen days is the time for follicle hormone and the last fourteen days for antuitrin S or lutein hormone.

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A DISCUSSION OF THE MORTALITIES FOLLOWING OPERATION ON THE THYROID GLAND IN ATLANTA, 1929 to 1933, INCLUSIVE*

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In view of the fact that the surgery of the thyroid gland has developed in such an amazing degree during the past 25 years—due to the work of Mayo, Crile, Lahey and others of no less fame, and as most of the statistics on this particular subject emanate from such centers, I thought it might be of interest to review and discuss briefly the mortalities occurring during the last five years in our own midst—that is, the hospitals in Atlanta—a non-endemic goiter area. One reason, no doubt, so many victims of goiter delay seeking medical and surgical advice is because there still exists in the minds of the laity and some physicians the belief that the surgery of this gland still carries a frightful mortality and the operative hazard is as great as it was only a few years ago. This fear is partly justified because of the fact that the marked reduction in the mortality has not been as widely disseminated as it should have been. The evidence tends to show that the majority of the mortalities come from the neglected cases. In 1921¹ reports from 100 general hospitals throughout the United States showed a mortality of 8 per cent. In 1926 reports from 200 general hospitals showed a mortality of 7.1 per cent. Recent personal communications from the following individual clinics reported as follows: Jackson Clinic for the last 5 years, 2.5 per cent; Hertzler Clinic for the last 5 years, 2.38; Mayo Clinic for the last 5 years, exophthalmic type 0.7, toxic adenomatous 1.98, non-toxic adenomatous 0.29, malignancies 2.35, making a total number of cases 5,244 with 47 deaths and a mortality per cent of 0.89. Mae's² recently reported a mortality of 7 per cent in New Orleans at Charity Hospital in the last 275 cases. Lahey of Boston in the last 912 patients through 1932 had only one death (embolus), mortality per cent of 0.11.

It is reported by the U. S. Department of Agriculture that added color in food causes many seizures.

*Read before the Medical Association of Georgia, Augusta, May 11, 1934.

In Atlanta, Georgia, during the five-year period 1929 to 1933 inclusive, there were 827 patients operated on for disturbances of the thyroid gland with 22 deaths—a mortality of 2.66 per cent which is not bad comparatively speaking. Right here I would like to state that any remark made by me relative to these cases which might be implied

were toxic or non-toxic and believe this classification to be fairly accurate from that standpoint.

Table II will show in a rather compact manner the status of these cases that died other than the malignancies.

Table II

Table II. Toxic Thyroid Deaths After Thyroidectomy 1929 to 1933 Inclusive									
Pt.	Age	wt. & nerv. st.	metab. rate	years	Oper.	anaes.	pulse	Death cause	
C.	48	marked	not	23	1	sub-total	gas & local	100	postoperative hemorrhage
F.	50	marked	mildly toxic	7	1	sub-total	local	good	embolus (10 hrs)
P.	55	marked	not	years	total	local	116		possible cerebral embolism
R.	55	rapid	made	3	1	sub-total	local	126	storm (48 hrs) temp 102, pulse 160
D.	34	rapid & very ner	20	1 1/2	1	sub-total	local	120	very mild reaction, cardiac?
L.	52	rapid	40 lbs	2	1	sub-total	local	120	storm & shock? (8 hrs) temp 104, pulse uncountable
M.	34	rapid	extr. ner.	28	5	sub-total	local	impero	storm & pneumonia 7th day
B.	80	rapid	20 lbs	38	years	sub-total	local	108	storm & pneumonia 4th day (tracheotomy)
E.	32	rapid	68	1	1	sub-total	gas & local	impero	storm, pneumonia (5 days)
H.	36	rapid	20 lbs	7	1	sub-total	gas & local	160	storm (32 hrs) temp 106, (aspiration pneumonia)
A.	36	very ner	87	1	1	sub-total	gas & local	160	storm & pneumonia 13th day
C.	60	rapid & ner.	38	1	1	sub-total	gas & local	160	storm acute (11 hrs) temp 105 1/2 160
D.	59	rapid	69 lbs	37	2	sub-total	thyroid local	124	storm acute (7 hrs) temp 105, pulse imperceptible
K.	50	considerable	7	years	1	sub-total	gas & local	?	storm acute (20 hrs) temp 105, pulse imperceptible
N.	35	rapid	-	7	1	sub-total	gas & local	160	storm acute
O.	53	rapid	60	3/4	1	sub-total	local	160	storm (36 hrs) temp 104, pulse imperceptible
Q.	53	very ner	49	years	1	sub-total	local	124	storm (40 hrs) temp 104, pulse 168
T.	45	marked	?	13	1	sub-total	local	176	storm (72 hrs) temp 107, pulse imperceptible
U.	22	rapid	made	?	1	sub-total	ether	impero	storm (20 hrs) temp 104, pulse 170
V.	50	rapid	20 lbs	70	?	sub-total	ether	132	Died promptly
									storm (8 hrs) temp 102, pulse imperceptible

as being critical is for constructive purposes only and also I would like to place myself at the head of the list to be criticized if criticism is justified.

The classification of these cases was as follows:

Table 1. Goiter; Mortalities after Thyroidectomy from 1929 to 1933 inclusive.

Toxic	550	Deaths	20	%3.63
Non-Toxic	277	Deaths	2 (both cancer)	%0.72
Total	827	Deaths	22	%2.66

I began with an effort to classify these cases according to the classification adopted by the American Association for the Study of Goiter, that is, diffuse toxic, diffuse non-toxic, nodular toxic, nodular non-toxic, but soon found that to be impossible as so many of the records were vague, incomplete and all sorts of terms used. However, I did try to arrive at the truth as to whether they

I have listed the data of these cases so as to bring out a few points well worth considering when we are dealing with and studying the patient with hyperthyroidism.

In the first column is shown the age of the patient and as you see 15, or 75 per cent of these 20 cases were 40 years old or older. That is of some importance because as we all know there is a certain amount of wear and tear on the heart incident to age alone which makes any extra demand on the heart, such as hyperthyroidism, after that age more serious. However, in the very young it must not be forgotten that the reaction to any stimulus is greater than in the older person due to the instability of the nervous system.

In the next column I have listed the study of these cases regarding the weight loss and nervous state. This, I consider, of extreme importance because as you will note 17, or 85 per cent gave a history of rapid loss in weight

and a number of them regarded themselves as being extremely nervous. The nervousness in a patient suffering with hyperthyroidism is apt to be minimized, therefore, it is a good idea when studying thyroid cases to make inquiry through their relatives as to their degree of nervousness.

In the next column is tabulated the basal metabolism. I found this to vary from minus 7 to plus 83. This test unless made repeatedly and with favorable surroundings is unreliable as to the severity of the hyperthyroidism. Under no conditions should it be relied upon to decide when to operate and how much surgery should be done at a given time, but taken in conjunction with all the other evidence it is a very valuable adjunct. Its chief value is from a diagnostic standpoint and not for prognosis.

In the next column I tried to determine the duration of the toxic symptoms in these cases. This varied from 6 months to 13 years. This is another important phase in the history taking and study of the patient because the longer the duration of hyperthyroidism the greater will be the damage done and the more uncertain will be the degree of postoperative reaction and the higher the mortality per cent will be.

In the next column I listed the amount of surgery done in each case. All had subtotal, bilateral thyroidectomy except one who had a hemithyroidectomy. In my opinion this is one phase of thyroid work that is being neglected, that is, the abandonment of the multistage operation. The more or less general use of iodine both by physician and laity has been a contributing factor and perhaps has at times masked the real status of the patient with hyperthyroidism, and led to unwise radical surgery. Perhaps some of these cases would have been saved if less radical surgery had been done at the time.

In the next column is shown the types of anesthetic used. In 11 cases local anesthesia was used alone. In 6 cases gas oxygen or ethylene and local were used and in 2 cases ether was used and one we were unable to determine by the record. Ether should be condemned absolutely in all cases of hyperthyroidism. In a report by Mae's out of 14 patients who had ether, 6 died. Some

men prefer local alone, and I think it is a matter of personal opinion but certainly my patients have less reaction under light gas oxygen or ethylene in conjunction with local. Chiefly, I think because the element of fear is eliminated.

In the next column I listed the pulse at the end of the operation. This as a whole is unreliable in so far as aiding in foretelling what the outcome will be; as you see it varied from 100 to uncountable. Sise³ pointed out several years ago that the behavior of the pulse, pulse pressure and respiration during the operation in the younger individual was a fairly accurate guide as to the degree of postoperative reaction to be expected. As a rule it was in proportion to the pulse rate, pulse pressure and respiration. In the elderly patient of longstanding toxicity these findings were of no aid and frequently misled the surgeon into more radical work with higher mortality per cent. At this point, I would like to state that the majority of these cases gave a history of having taken iodine in some form in varying amounts for varying lengths of time either prescribed by a physician, by themselves or some neighbor or friend.

In the last column I have tabulated the causes of death in this series of 20 patients. One died of postoperative hemorrhage, that and sepsis were at one time two of the main causes of death following operation for goiter but thanks to our knowledge of hemostasis and asepsis, they have practically been eliminated. One died of an embolus within 10 hours, one died from a postoperative cerebral embolism at the end of 48 hours after a mild reaction. Embolism is a complication that follows in the wake of all surgery and as a rule it cannot be foreseen, prevented or treated successfully after it has developed. It is comparatively infrequent following operation for hyperthyroidism, probably due to the fact that the circulation is more active and thereby a lessened tendency to stasis which favors the formation of thrombi. One died apparently a cardiac death? Six of these cases had a postoperative reaction or storm followed by pneumonia which demonstrates the frequent association of pneumonia following a severe reaction. This should stress

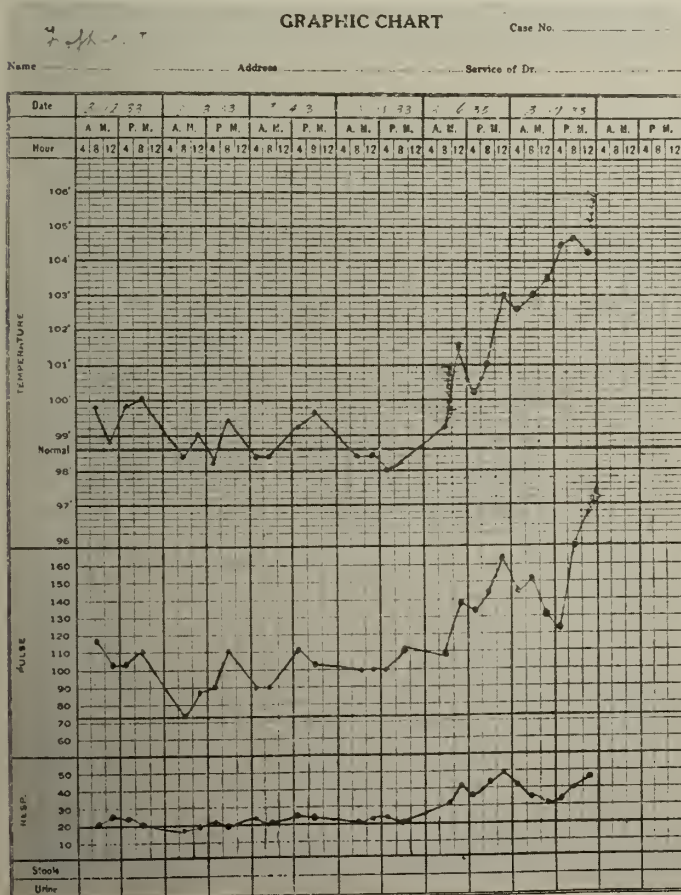
the importance of avoiding operation during or soon after respiratory infection. Ten developed acute postoperative hyperthyroidism or storm. This implies an exaggeration of the already existing hyperthyroidism, that is, a high fever, rapid pulse, hot, dry skin and more or less agitation. However, some of these cases did not have the classical description of postoperative storm but on the contrary were rather quiet, listless and one I know in particular went rapidly into semi-coma with high temperature and rapid pulse and died.

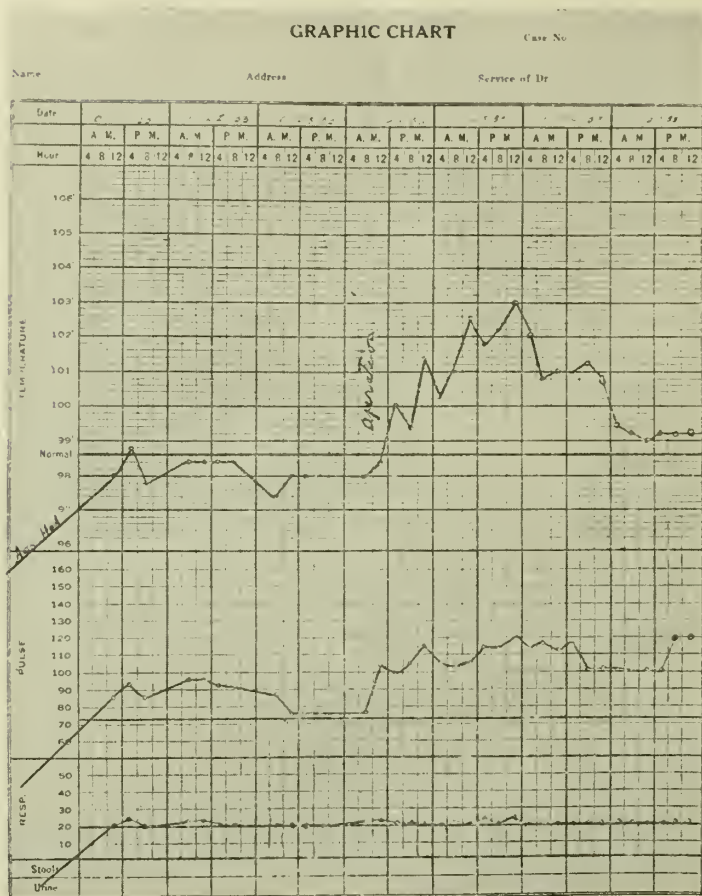
After somewhat critical analysis of these 20 deaths out of a series of 550 cases of hyperthyroidism with a mortality per cent of 3.63 one naturally asks the question: Could anything have been done to have prevented a single death in this series? I was unable to determine the extent of the pre-operative preparation but in some it was far from being adequate. One patient entered the hospital two days before operation (extreme case) with no preparation and died prompt-

ly following operation. This should be avoided.

No man or group of men should be content with a mortality as high as 3.63 following operation for hyperthyroidism at the present time. It is the occasional patient who is dying that we should all try to save. We should all strive for the reduction of the so-called irreducible mortality. These questions might be timely. Was it that too much surgery was done at one time? Was it that the patient was operated on too hastily? Was it lack of pre-operative preparation and observation? Four patients in this group probably died from unavoidable complications, six died from reaction and a complicating pneumonia. Ten died from acute postoperative hyperthyroidism within 72 hours. All of these patients had adequate postoperative treatment but so often this is too late, therefore, the ideal to be sought is keeping the patient out of this state, that is, preventing a postoperative hyperthyroidism. How are we to do it? Once more looking back over

these cases, we note that 75 per cent were above 40 years of age, 85 per cent gave a history of rapid and marked loss in weight with a marked instability of the nervous system; the majority had moderately high basal metabolism, also a history of long-standing toxicity and a number gave a history of iodine consumption over a long period of time. In a group of patients presenting such a picture there is ample warning that no chance must be taken. With the proper period of rest, the proper digitalization when indicated, the omission of iodine from four to six weeks, then a resumption in the cases who have taken it for a long period of time, and step by step surgery in the doubtful cases, especially if the patient be about 40 years of age, or older, I am quite certain that our mortality here would be reduced to a point in keeping with the best clinics throughout the country. It mat-



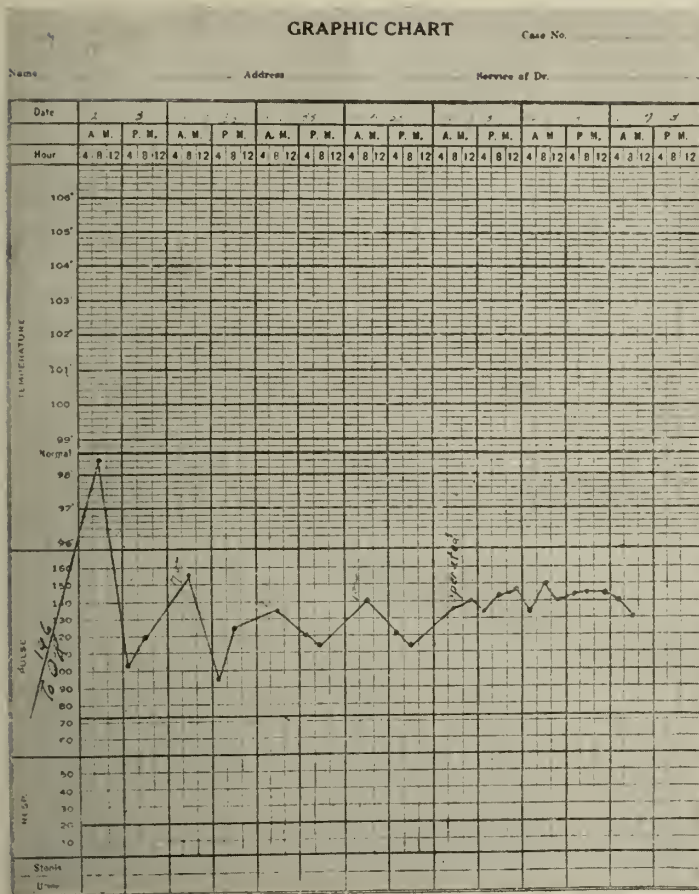


ters not how dextrous a surgeon may be or how speedy, these cannot in any sense compensate for good judgment as to when to operate and how much to do at the operation. At any time during the operation there arises any doubt as to whether it is safe to proceed further, he must be prepared and unafraid to stop. Lahey has reduced his mortality in the last 912 patients through 1932 to one death which was due to an embolus. I am confident this is due to the fact that they have operated on 22 per cent of all their toxic cases in multiple stages. If it is necessary for him in a well-organized clinic to keep his record that low by doing 22 per cent of cases by multiple stage measures, then is it not even more necessary that we, who are not well organized, to increase our step by step approach? Apparently with the more general use of iodine the style has been to do the operation in one stage and abandon the step by step approach but I think the pendulum is swinging in the opposite direction. Just as long as misdirected, iodinated

and mistreated patients, whether by physicians or laymen, come for surgery, just so long will it be necessary for the surgeon to be on his guard lest he be led into many pitfalls by doing too radical or too precipitate surgery. The pleas of the patients and friends "get me by as quickly and as economically as possible" has no doubt placed in jeopardy the life of many an individual during the past few years. Even the most conservative and discriminating surgeon is liable to be influenced by such pleadings at the present time. No patient with hyperthyroidism should ever be considered an emergency operation except for the association of mechanical obstruction of the trachea from the growth. If they are in a crisis or on the verge, operation will only hasten the end. Bartlett⁴ states that every death following an operation on the thyroid probably means that too much surgery was done at

the time. Neither the time nor the economical element should enter into the discussion of the desperately sick patient suffering with hyperthyroidism. Errors of judgment are costly but not criminal and perhaps no man or group of men can ever attain infallibility but it should be the ambition of every conscientious doctor to save the life of everyone entrusted to his care and he should gamble with none.

I would like to show three graphs to illustrate a few points. Graphs 1 and 2 will illustrate the behavior of two patients. They were very similar, about the same age—just above 50. Both had lost rapidly in weight and were very nervous, both had taken iodine for quite a while and both had a high basal metabolism. No. 1 was left in hospital for seven days, iodine continued and then operated on under local anaesthesia rather quickly. She went rapidly into postoperative storm and died in about thirty hours with temperature of 104 and pulse 188. Patient represented by graph No. 2 was sent back



home to stay in bed most of the time for six weeks, iodine was omitted, sedatives given and avoidance of all things excitable advised. After about six weeks, iodine was resumed. She had gained some in weight and returned for possible operation. The basal metabolism had come down quite a bit and she presented a different picture. After several days in hospital she was operated on under ethylene gas and local anaesthesia and except for a rather severe reaction, as the graph shows, she made a satisfactory recovery. This illustrates the benefit derived from leaving off iodine from four to six weeks in those cases who have taken it for some time—the so-called iodine fast cases.

Graph No. 3 represents and is presented to illustrate the effect of the element of fear or fright on these hyperexcitable patients. This patient was in the hospital and had had what is ordinarily termed adequate pre-operative preparation. On the morning she was to have been operated on she was given rather heavy pre-operative medication and

when she reached the operating room her pulse was 196, as the graph shows. In spite of that she felt good and said she was all right. Some excuse was made and she was returned to her room and told she would be given a treatment for cold each morning for about a week. Set routine was carried out each morning, that is, sterile hypodermic and enema. She was carried to the operating room at the same time each morning and gas given at the same hour. The graph shows how her pulse rate increased each trip. On the fifth morning the gas was continued, the operation performed and her pulse rose very little higher than it was when the gas alone was administered and she made a satisfactory recovery.

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EMBOLISM: FOLLOWING INSTRUMENTATION AND INJECTION OF OIL INTO URINARY BLADDER

In spite of the fact that in their case there is a direct chain of circumstance proceeding from the instrumentation and oil injection through rather suggestive symptoms to the death of the patient, Jesse L. Carr and Clark M. Johnson, San Francisco (*Journal A. M. A.*, June 1, 1935), are still at a loss to explain why a small amount of oil entering the blood stream in this way should cause death when it is known that larger amounts can be injected intravenously without causing definite symptoms. As Lehman and Moore suggest, the entrance of fat into the blood stream cannot be definitely regarded as disease producing in a direct way, and they indicate that this fat entering in abnormal circumstances may not be the fat which causes the embolism. They suggest rather that such fat introduced artificially must in some way associate pathologically with the free neutral fat in the blood stream, which is there physiologically. In the authors case there was no indication that the fat metabolism was upset or that the emboli seen in the various organs described are composed of other fat than that which was accidentally injected, although, of course, it was not possible to analyze these droplets for determination of their specific formulas.

SOME CLINICAL OBSERVATIONS
AND TREATMENT OF ECZEMA*

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Eczema is an acute inflammatory disease of the skin appearing in individuals who have inherited or acquired a sensitive skin. At present the condition is considered an allergic reaction.

The etiology of eczema involves a predisposing and a direct cause. The predisposing cause is the allergic state or disposition of the skin of the individual affected. In most cases of eczema I have found a history of skin or mucous membrane allergy in one or both parents. The direct cause may be one of many or often is the sum total of several causes. Any external or internal irritant acting on the skin in question may be the exciting cause. Some of the more common exciting causes are exposure to a harsh wind, strong soaps and hot water used over a long period, irritants of various occupations, drugs, constipation (amino-acids), foods—such as nuts, pork, citrus fruits, strawberries, tomatoes and sweets. Alcohol, coffee and tobacco in large amounts often excite eczema of the anal region. I am convinced that fatigue and emotional instability frequently excite attacks of eczema in the intellectuals. We must keep in mind the embryologic relationship of the skin and nervous system.

Sufficient proof has not been presented that eczema results from foci of infection. I seriously doubt if eczema is ever caused by foci of infection. This opinion is based on the observation of a large number of patients with chronic eczema who have had one or more operations for suspected or proven foci of infections without disappearance of the eczema.

Individuals who have mild or severe ichthyosis are especially prone to have eczema. Mild ichthyosis (Xeroderma) is a common condition.

Recently, I saw five patients with ichthyosis and eczema, during a regular skin clinic at

Grady Hospital. It is easily recognized. These persons should be warned of the danger of attacks of eczema and instructed as to the care of their skin to avoid eczema.

Acute vesicular eczema, the so-called weeping eczema, is frequently seen in men and women following a prolonged party or a series of parties. A combination of exciting causes such as toxins (constipation), fatigue and nervousness is responsible for the attack. History of absence of sexual gratification has been noted in a few cases of eczema which failed to respond to treatment.

The manifestations of eczema vary from simple erythema, papules, vesicles and pustules, usually observed in the acute stage, to dry, thickened and sometimes verrucous skin in the chronic stage. Abrasions, fissures, scales, crusts and secondary infection may be present at any time. The patient complains of intense itching, sometimes burning or a crawling sensation and even pain. Fever is absent. Nervousness is a frequent accompaniment of eczema. The condition is prevalent at all ages. Primary or recurrent attacks may be regional or general.

The laboratory has not materially assisted the clinician in the diagnosis, prognosis or cure of this disease.

Some common conditions which may be confused with eczema are dermatitis venenata, erysipelas, drug eruptions, pityriasis rosea and the various fungi infections. Diagnostic skin tests for sensitization in eczema are not of practical value. Patients should not be subjected to this expense until the tests have been perfected to give more knowledge than they now do.

Eczema is curable. Recurrent attacks are common. One wonders why attacks are not more frequent. It is most difficult to secure a patient's cooperation in carrying out instructions to prevent recurrent attacks. It is human nature for interest to cease as soon as relief is obtained. It is almost impossible to cure eczema in a woman of the farm who must continue to milk, cook, wash dishes and clothes and scrub floors.

Unless an eczema patient follows instructions after recovery from the attack, recurrence is to be expected.

*Read before the Medical Association of Georgia, Augusta, May 11, 1934.

Treatment

The correction of diet, I believe, is the most important phase of treatment. In handling an acute case it is well to place the patient on a diet consisting of two or three articles of food and increase the diet as improvement takes place. This not only eliminates the most likely source of toxins but assists the body in establishing normal body functions. Alcohol should be prohibited. Intake of coffee and tobacco should be reduced and in certain cases eliminated as in eczema of anus and genitals.

X-ray treatment is our most valuable therapeutic agent and is indicated in most cases. Large doses or prolonged treatment should be avoided. Results from x-rays are often so satisfactory that patients are inclined to neglect other procedures and will induce the careless physician to give too much treatment. A record of previous x-ray treatment by other physicians should be obtained. This protects the patient and the physician.

In acute vesicular eczemas never use ultra-violet light. The actinic rays increase the discomfort of the patient, spread the eruption and prolong the attack. Sun baths for the same reasons should not be used. If the case is acute, soothing lotions and pastes are indicated. If secondary infection is present, simple wet dressings are indicated. In a long-standing, infiltrated eczema—stimulating ointments containing tar, sulphur and salicylic acid should be used in various strengths to suit the case.

A good alkali-laxative mixture is indicated in practically all cases of eczema if any appreciable amount of skin surface is involved. A sedative, preferably bromide, is often of value. Occasionally a tonic is indicated.

If the major portion of the body is involved, rest in bed is essential for a speedy recovery. When the hands, feet and limbs only are affected, a supportive dressing with elevation secures rest, aids rapid recovery and adds comfort to the patient. Avoid the use of adhesive in eczema. Adhesive often spreads an acute eczema.

In some cases where response to treatment is very slow, a trip to the seashore or mountains is advisable. The patient secures a

change of scenery and is removed from relatives and friends who are constantly suggesting various magical cures which keep him in a state of mental unrest.

Since we cannot take away the allergic disposition of the eczema patient and since, for practical reasons, we cannot control the patient's activities after an attack has subsided, recurrent attacks are to be expected in a large number of cases.

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THE EYES AS RELATED TO SINUSITIS*

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Macon

The eyes as located in the orbit are in very close anatomical relation to the accessory nasal sinuses with likewise a closely related blood supply and nerve distribution.

First, let us consider this intimate relationship of the sinuses with the orbit so we may better understand the various eye symptoms and conditions which are definitely referable to the sinuses. Superiorly, the roof of the orbit is formed by the floor of the frontal sinus, nasally the ethmoidal and sphenoidal sinuses are separated from the orbit by the lacrimal bone which is as thin as paper and by the delicate lamina papyracea of the ethmoid which moreover frequently has dehiscences in it. Inferiorly, the floor of the orbit is formed by the roof of the maxillary sinus or antrum of Highmore.

Thus, with this anatomical relationship in mind we may expect various eye symptoms which are referable to the sinuses as well as a number of eye disorders which may be attributed in whole or part to the accessory sinuses. And this is exactly what does occur. It is a frequent occurrence to see a patient come in who thinks his eyes are at fault, as all his symptoms are definitely related to this organ and a careful eye and rhinological examination reveals that the symptoms are sinus in origin. Moreover, it is a difficult task at times to ascertain whether the patient's symptoms, such as headache

*Read before the Medical Association of Georgia, Augusta, May 11, 1935.

and asthenopia are purely eye in origin or whether some sinus disorder is responsible. In other words, I feel that an oculist should be sinus-minded.

Let us consider for a few moments some of the more common subjective symptoms which bring a patient to the oculist, or optician, not knowing that his or her sinuses are at fault.

Headache and asthenopia may be considered among the most common complaints. Others note photophobia and burning of the lids, while another states that his eyeballs ache and feel sore. These symptoms are frequently misinterpreted by the ophthalmologist and particularly by the optician or optometrist. In the course of an eye examination, if say the visual acuity is a little below normal we might immediately deduct that some error of refraction such as astigmatism is present, and feel that a lens is indicated without considering the state of the accessory sinuses. Only recently I have seen a patient who was complaining of headaches. Eye examination revealed that she had quite faulty vision in one eye with a resultant muscle imbalance which was easily visible. The conclusion would be that this state of affairs was the most likely cause of headache, but a careful history revealed that the headaches were worse early in the mornings, were not associated with or made worse by the use of the eyes, that the eyeballs ached and felt sore and subsequent rhinological examination revealed that the symptoms were definitely sinus in origin. I must add before passing on from this phase of the discussion that I believe this intimate relationship between the eyes and accessory sinuses is sadly overlooked by the optometrists and opticians. In my limited practice, I have been impressed by the number of cases which they have considered errors of refraction, prescribing a combination of lenses to be worn and at a later date these patients with their eye symptoms unimproved and possibly getting worse have disclosed an active sinus disorder.

And now, let us consider some of the eye disorders and complications which may be attributed to the accessory sinuses. 1—Lids

and conjunctiva-edema of the lid is a common symptom of frontal, ethmoidal and antral disease. Edema and swelling of the upper lid to the extent to cause ptosis is seen rather frequently in acute frontal sinusitis, whereas edema of the lower lids is more indicative of an antral or ethmoidal infection. Watering of the eye, conjunctival congestion, distinct catarrhal conjunctivitis and deep-seated scleral congestions have been noted as frequent symptoms of sinusitis especially in its acute or early stages. The infection extends along the naso-lacrimal duct to the conjunctiva, so that in all cases of unilateral conjunctivitis which recur and are rather persistent we should suspect the lacrimal sac and in turn the nose.

2—The cornea and uveal tract—keratitis, corneal ulcers, iritis, uveitis, choroiditis and vitreous opacities may be due to sinus disease.

3—Retina and optic nerve. The most important of the eye disturbances arising from infections in the sinuses are those involving the optic nerve. This is a complication easy to understand by simple reference to the anatomical relation between the optic nerve and the paranasal sinuses. The nerve in its bony sheath passes through the upper and anterior part of the sphenoid in about 75 per cent of cases. In many other cases it projects into the cavity of a postethmoid cell. The bony wall covering the nerve is very thin and dehiscences have been found in the wall of these sinuses where the diseased mucosa may come into direct contact with the optic nerve sheath. In 220 sinus dissections by Neivert dehiscences in bone were found in 12 subjects. Thus it is easy to explain how an inflammatory process in these cells can effect the nerve by direct extension. Faulkner thinks this is probably what occurs, but the immediate relief of nerve inflammation when these cells are opened has led such men as Sluder to believe that the nerve is affected by pressure. In other cases the phenomenon would appear to be due to toxic absorption, as the neuritis has been observed from toxic causes when the focus was not proximal to the nerve. In this relation Leon White has recently become convinced that other foci such as tonsils and teeth, more

frequently produce optic neuritis than the sinuses. Faulkner thinks that the sinusitis most often associated with these nerve lesions is the hyperplastic type, though they may occur in purulent cases and have been observed in primary acute conditions of the sinuses. However, at this point is where controversy arises as some men will not admit that these sinuses are responsible for a retrobulbar neuritis unless frank pus is demonstrated in the sinuses. Nevertheless, Faulkner and others do not feel that this is a point of issue, stating that pus may be found in the posterior sinus region, but more often it is not, and a thickening of the membrane may be all the noticeable change.

There is usually a history of acute or chronic nasal disease. Most often one eye is affected. The symptoms are failing vision, often with early loss of colors, enlarged blind spots and contraction of the visual field. Sometimes headache is present and may be localized over the frontal region of the affected side. Associated with loss of vision the patient may complain of pain and soreness on movement of the eye. Diagnosis should be made of this condition as early as possible. Cases of short duration, before the nerve has become seriously damaged, make a recovery which seems almost miraculous when the posterior ethmoids and sphenoids are opened. Normal vision may be restored in twenty-four to forty-eight hours. Cases which have lasted longer recover more slowly, and the longer the duration the less prospect of recovery.

4—Orbit and lacrimal region—the contents of the orbit may be involved by the direct extension into it of a mucocele, pyocele or neoplasm. Orbital cellulitis and orbital abscess following suppuration in the frontal and maxillary sinuses and ethmoidal cells are not an infrequent complication as related to the eye. Some observers have shown that around 60 per cent of the cases of orbital inflammation were due to accessory sinus inflammation. Pathogenic organism may enter the orbital tissues through the anastomosing veins, through a dehiscence in any of the orbital walls or by direct process of necrosis and fistula. Swelling of the lids, edema and

redness of the conjunctiva accompanied by a closure of the eyelids and intense pain occur at once. Pressure upon the eye sets up severe pain. Proptosis of the globe is seen and the eyeball may be turned upward, outward or downward according to whether the infection originates in the antrum, ethmoid or frontal sinus. Abscess formation with discharge of pus outwardly sometimes takes place, resulting in fistula. If not relieved great destruction of the orbital tissues may occur, with total loss of vision in the affected eye.

Also, in relation to the lacrimal region we should be alert lest we think that we are treating a dacryocystitis or inflammation of the tear sac, whereas in reality we are faced with a symptom of sinusitis as later a definite antral or ethmoidal infection is uncovered.

Finally, mention should be made of the muscles in relation to sinus infection. Muscular asthenopia and loss of accommodation may result from a neuritis originating from infection in the sinuses. These patients in the presence of an active sinus infection do not seem to tolerate prolonged use of their eyes whether driving a car or performing close work. There may be burning of the lids, attended by lacrimation. Others state that the eyeballs ache and feel sore. Ocular palsies may be caused by sinus disease. The proximity of certain nerves to the sphenoid and posterior ethmoids as they pass through the sphenoidal fissure renders these nerves liable to damage from infection in the external walls of these sinuses. Faulkner states that the sixth nerve is most commonly affected, though it may be either the third or fourth or even all three with resulting paralysis of the muscles each supplies.

In conclusion, I trust I have been able to demonstrate the close relation which exists between the eyes and the accessory sinuses and thus to better understand the clinical findings which are brought about as a result of this close relationship.

Discussion on Paper by Dr. J. Allen Smith

DR. W. R. BEDINGFIELD, Augusta: Dr. Smith covered his subject well and in leading the discussion one needs only to emphasize certain points.

A thorough knowledge of the anatomy of this area is essential not only for diagnosis but to be able to effect a cure as well. In reviewing the anatomical relations we note that the optic nerves coursing backward from the eye balls to the chiasm pass inward as well as backward. Throughout the greater part of this course they are in close proximity to the ethmoid and sphenoid sinuses, separated only by a thin lamina of bone. Extension of infection to the optic nerve and to the orbit by direct invasion or by continuity of tissue is possible and indeed often occurs.

Schaffer has developed the fact that abnormal frontals often extend back to the apex of the orbit, and hence the optic nerve can be involved this way. However, this occurs much less frequently from frontal infection than from the ethmoid and sphenoid regions.

The dural sheath of the brain and the sheath of the optic nerve is directly continuous with the optic foramen periosteum making it possible for poisonous drainage from a sinus to enter the subdural spaces.

Then, to further complicate matters, it is well to bear in mind that the posterior vein of Vossius enters the center of the optic nerve at the optic foramen and extends backward to the optic chiasm. Unfortunately the vein in this position receives the tributaries which drain the nasal area and the posterior part of the orbit. Therefore, the vascular drainage furnishes a direct route from infected areas to the optic nerve, especially a direct route to the papillo-macular bundle.

Perimetry is a boon to us in making an early diagnosis. The peripheral fibers of the optic nerve show changes first and this is demonstrated by an enlargement of Mariotte's blind spot. The enlargement may be relative, absolute or indistinct. The field for form and colors becomes progressively smaller, proceeding according to severity of the process.

There is no longer any argument that a good ophthalmologist must know fields and blind spots and their interpretation and must often do them. In the beginning of a sinusitis it may be the only demonstrable sign of involvement of the visual pathway.

So, in closing, we recommend always a careful survey of the eyes in sinusitis, including the fields and blind spots. And in unsatisfactory cases much good can be accomplished by adequate opening and drainage of the offending sinus before it too severely affects the vision.

"DOCTOR" as a title was invented in the twelfth century. First there were Doctors of Law and Doctors of Divinity. William Gordehio was the first person upon whom the title of Doctor of Medicine was bestowed. He received it from the College of Asti, in 1329. Today, in America alone, there are nearly 150,000 persons who have a right to sign themselves "M.D."—Doctors of Medicine.

MORE THAN 74 per cent of the medical students in Soviet Russia are women, it is reported.—Medical Society of the State of New York, Release, June 17, 1935.

THE ATLANTIC CITY SESSION OF THE AMERICAN MEDICAL ASSOCIATION

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Atlanta

In the archives of the Canadian Medical Association one finds a record of the transactions of one of its earliest meetings in which the hope is expressed that the newly-organized Canadian Association may soon have the pleasure of meeting with the American Medical Association, its senior by less than a decade. After the lapse of a generation those who attended the recent meeting in Atlantic City saw the fruition of this mutual hope as the sixty-sixth annual session of the Canadian and the eighty-sixth of the American Medical Association were convened in joint session. About 8500 physicians were in attendance. The scientific program repeating its annual presentation of the newer knowledge in medicine and surgery, was enriched by the erudite contributions of our Canadian colleagues. There is something fine about the Canadian doctor which sets him apart in the crowd. Dignified, keen of eye, sensitive to progress, cultured in bearing and masters of the mother tongue, they complimented the fellowship of the meeting and exhibited in their discussions those fine professional qualities which we have long attributed to the English physician.

From year to year the scientific exhibits have grown in volume and interest. This year 15 sections of the scientific assembly contributed to this feature of the program. The great hall housing these exhibits was crowded to capacity throughout the meeting. Dr. Allen H. Bunce and his fellow trustees were the recipients of many commendatory remarks because of the excellence of this feature. The commercial exhibits were hardly less interesting. One is amazed at the advances constantly being made in the equipment of the physician and in his medical armamentarium. The truth bears in upon us that the physician through whose knowledge all these aids to the scientific care of the

sick are to be appraised faces a future in which his acumen must be kept at its maximum efficiency if he is to measure up to the high responsibility which rests upon him with regard to the public welfare. It is because the edge of initiative is whetted and he is made acquainted with the many advances in theory and practice, that the physician, particularly the young doctor, should avail himself, even at immediate financial sacrifice, of the privilege of attendance upon the annual sessions of state and national meetings.

President Walter L. Bierring in his address to the House of Delegates, giving an account of his stewardship said that "One of the gratifying impressions gained in his contacts with the membership of our Association in all parts of the country was the sustained interest and manifest devotion to scientific medicine." It is heartening to feel the force of such concert of action and to claim membership in an organization now numbering more than 100,000. With such a group, bound together by those principles governing professional conduct which have made our profession worthy of the preferred position which it holds in the hearts of people everywhere, we should of right take courage for the future with assurance that as long as we cling to the tenets upon which we have so well built, nothing from without will harm us. Only decay from within will aid and abet those influences which, under misguided opportunists are blindly seeking to substitute a regimented profession for that which has given America the most adequate medical service on earth. That such a service may continue, the public health be protected and the ills of our people most effectively treated the House of Delegates reiterated its vigorous opposition to compulsory sickness insurance as proposed by the President's Committee on Economic Security. At the same time, recognizing the need for plans of practice to meet the needs of sub-comfort groups, approval was given to the setting up of systems of voluntary illness budgeting on a community basis. Some 150 such plans for medical service under county medical society supervision are undergoing study and trial in various communities

throughout the country. Encouragement to county societies to establish such plans for the provision of adequate medical service for all of the people, adjusted to present economic conditions, was reaffirmed. It was agreed that no model plan could be devised that would meet the varying conditions encountered in the different communities throughout the country.

The Medical Association of Georgia was represented at this session by some 75 members. The Fulton County Medical Society may well be proud of the prominent part played by its members. President E. D. Shanks was an interested guest of the House of Delegates. President J. E. Paullin, as a member of the Council on Scientific Assembly gave the session an excellent program. Dr. R. R. Kracke presented a paper at the general scientific meeting, Dr. Lee Bivings and Glenville Giddings had exhibits in the scientific exhibit section, Drs. F. K. Boland, M. S. Equen, Jos. Yampolsky and Lee Bivings were on the program to lead in discussions. Dr. M. C. Pruitt by invitation discussed a paper presented at the meeting of the American Proctologic Society in session concurrently with the American Medical Association and Dr. J. R. McCord was Chairman of the Section on Obstetrics, Gynecology and Abdominal Surgery of the A. M. A.

At the final session of the House of Delegates the following officers for the ensuing year were elected: President-Elect, Dr. J. Tate Mason of Seattle, Washington; Vice-President, Dr. Kenneth M. Lynch, Charleston, S. C.; Secretary, Dr. Olin West, Chicago; Speaker of House of Delegates, Dr. Nathan B. Van Etten, New York; Vice-Speaker, Dr. H. H. Shoulders, Nashville, Tenn.; members of the Board of Trustees, Dr. Jas. R. Bloss, Huntington, West Virginia, and Dr. Ralph A. Fenton, Portland, Oregon. Kansas City was selected as the meeting place for 1936.

All in all, the Atlantic City session was one of the most outstanding in the history of the Association and your narrator expresses gratitude for the privilege of having served this Association in the House of Delegates.

THE JOURNAL

OF THE
MEDICAL ASSOCIATION OF GEORGIA
Devoted to Welfare of Medical Association of Georgia

478 Peachtree Street, N.E., Atlanta, Ga.

JUNE, 1935

DETAIL MEN

Once upon a time a detail man from one of the best pharmaceutical houses in the country dropped in on a well known internist to announce the synthesis of a new chemical compound. The representative was well educated, particularly in matters pharmacologic: he believed (rightly) that the new compound, which may be referred to as Neustoff, was of great value in the treatment of certain conditions. Though of course his primary object was to sell the drug, he also wished to pass his highly specialized knowledge on so that the physician, when he had diagnosed the appropriate condition, might benefit his patient by means of Neustoff. The doctor was not gracious, but he allowed the detail man to leave a sample.

Three years later this doctor came home from a European trip and went to see the leading pharmacist in his home town.

"Mr. Blank," he said, "I have just returned from a tour of Europe and while there I spent some time in Vienna. The Austrian doctors, you know, are not only splendid clinicians, but are also real scientists and veritable pioneers in medicine. They have recently perfected a wonderful new drug, Neustoff, to be used in the treatment of such and such conditions. I was profoundly impressed with what I saw these great physicians accomplish with Neustoff. I was informed that it might be obtained in America, so I secured a sample. I have brought you this box with the request that you stock it at least for my personal use. When the drug becomes better known, I feel sure that you will have many calls for it."

"Why, Dr. Dash," replied the druggist,

"we have had Neustoff on our shelves for the past three years."

The druggist told his friend the detail man of the incident and on his next round he asked Dr. Dash about it. Dr. Dash denied that he had ever heard of Neustoff before he got to Vienna, so they proceeded to his junk closet and the detail man was able to discover the original sample under a heavy layer of soot and dust.

This true story carries a moral. Although the particular drug in question happened to be one that was synthesized in Austria and the writer considers himself 100 per cent American, that is beside the point. This distinguished physician had to make a trip across the Atlantic to secure valuable information which had been offered him three years earlier in his own office by the representative of an ethical drug house. Such houses, be it remembered, have a code of ethics that is quite comparable to our own. Not all are ethical, it is true; but then, physicians also have been known to fall short of the ideal.

Centuries ago St. Paul wrote that one star differeth from another. Even so do detail men. But they may be divided roughly into two classes: those who represent the top-flight pharmaceutical houses and the others. The American Medical Association maintains at great expense our Council on Pharmacy and Chemistry. This Council examines all new pharmacologic and biologic preparations submitted to it by the manufacturer and it accepts or rejects them. When the Council puts its O.K. on a new drug, the individual practitioner may feel perfectly safe in trying it out. On the other hand the Council is sometimes a bit late in reporting its extensive and authoritative investigations. If a company has had many preparations accepted by the Council, a physician may experiment with its latest products, safe in the knowledge that the company would not jeopardize its own reputation by bringing out a worthless or potentially harmful drug. On the other hand, when a representative of a house which has never had a product accepted by the Council calls, the conscientious physi-

cian is more than justified in giving him short shift, though he should do so courteously.

It is not difficult to distinguish the two kinds of pharmaceutical houses. Only those preparations which have been accepted by the Council on Pharmacy and Chemistry can be advertised in *The Journal of the American Medical Association* or in these pages. Moreover, one should stand by his friends. A quick way to determine the standing of the representative is to ask him, "Do you advertise in THE JOURNAL OF THE MEDICAL ASSOCIATION OF GEORGIA?"

L. M. B.

OFFICERS AND COMMITTEES MEDICAL ASSOCIATION OF GEORGIA 1935-1936

EIGHTY-SEVENTH ANNUAL SESSION, SAVANNAH
MAY 12, 13, 14, 15, 1936

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*Award by the Ware County Medical Society.

Study of Maternal Mortality and Infant Deaths

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To visit South Carolina—Stewart D. Brown, Royston, and G. Lombard Kelly, Augusta.

THE ACTION OF EPINEPHRINE ON THE NORMAL HUMAN EYE*

USE OF THE STRONGER SOLUTIONS AS INSTILLATIONS

STACY C. HOWELL, M.D.
Atlanta

Within the past fifteen years there have appeared numerous papers, especially in the foreign journals, dealing with the treatment of certain types of glaucoma with preparations of the suprarenal gland.

Aside from the therapeutic uses of the preparations of the suprarenal gland a further value lies in the happy combination of mydriasis with reduction in the intraocular tension which is produced by the stronger (2 per cent) solutions on local instillation into the conjunctival sac. As a diagnostic measure for study of the media and fundus in glaucomatous or suspicious eyes, where the use of atropine derivatives or similar substances is contraindicated or dangerous, its value is readily realized.

Inasmuch as the American articles heretofore published deal solely with the effect of epinephrine on the intraocular pressure in cases of glaucoma without full knowledge of the possible pressure changes following its application to normal human eyes. I determined to study the action of the drug on a series of 100 normal patients selected at random from the ophthalmic out-patient clinic at Grady Hospital. The present paper, therefore, deals with a purely pharmacological investigation.

As is well known, epinephrine stimulates the adoneural and myoneural junctions of the sympathetic nervous system. The eye receives two sets of sympathetic fibers, one conveying impulses to the blood vessels, particularly of the vascular tunic and iris, and the other to the dilator muscle of the iris.

In man, changes in the intraocular pressure as well as dilation of the pupil were early noted by many observers, following the instillation or injection of concentrated solutions of epinephrine into the eye, and eventually led to the adoption of the drug in the therapy of glaucoma.

In the present study observations were made on fifty men and fifty women in whom there was no demonstrable evidence of any ocular disease. Tension was measured with a "Schiotz" tonometer and no case showing a tension below 15 mm. or above 25 mm. was included in this group.

A 2 per cent solution of Suprarenin Bitartrate (a synthetic epinephrine preparation) was employed. The drug is supplied in ampules containing .091 Gm. of the powder and representing 0.05 Gm. of active epinephrine substance. To secure a 2 per cent solution, the contents of one ampule were dissolved in 2.5 cc. of sterile distilled water.

The procedure adopted in each case was as follows: After a careful preliminary ophthalmologic examination the tension in each eye and the diameter of the right pupil in millimeters was recorded. Then four instillations of one drop each of the 2 per cent epinephrine solution were made into the conjunctival fold of the right eye only, at ten minute intervals. One hour following the last instillation, the size of the right pupil and tension in each eye were again recorded.

Analysis of the results obtained in the right eye (into which the epinephrine had been instilled) show that in 58 per cent of the cases there was no change in tension after one hour, but a distinct drop at the end of twenty-four hours. The magnitude of the reduction ranged from 1 to 11 mm., with an average of 6.2 mm. A lowering of the pressure was observed after one hour in 35 per cent and in all these patients except three it became progressively greater within the subsequent twenty-four hours. The average drop for the first hour was 3 mm. and for the following twenty-four hours 4 mm., with a total change of 7 mm., which is practically of the same degree as the drop noted in the first group of fifty-eight patients.

Observations on mydriasis were made only on the right eye. The pupil dilated within one hour in 98 per cent and had returned to normal size in twenty-four hours in 54 per cent. The increase in pupillary diameter varied from 1 to 7 mm., with an average of 4.6 mm. In nineteen cases the initial mydriasis was replaced by a mild miosis within twenty-four hours, whereas in 21 per cent besides a primary average increase of 5 mm., the pupil was still slightly dilated (1.3 mm.) after twenty-four hours.

Conclusions

The instillation of 2 per cent epinephrine solution into the conjunctival sac of the normal eye is usually, though not always, followed by a reduction in the intraocular tension. The drop in pressure may occur within one hour, but in most cases is not obtained until a later period.

A similar lowering of tension, though of much lesser degree, may be seen in the opposite eye.

Mydriasis usually occurs within one hour and disappears within twenty-four hours.

Following dilation of the pupil in the normal eye, there is no tendency towards sustained or material increase in the intraocular tension.

Absorption of epinephrine from the ocular conjunctiva may produce systemic effects in susceptible individuals.

Solutions of epinephrine, since they do not produce an increase in intraocular tension, afford a mydriatic for fundus and media studies in eyes in which atropine or its derivatives might be dangerous.

*Abstract of an article which appeared in the Arch. Ophth. 12:6, Dec., 1934.

GEORGIA DEPARTMENT OF PUBLIC HEALTH

T. F. ABERCROMBIE, M.D., *Director*SOME FURTHER OBSERVATIONS ON
THE CONTROL OF TUBERCULOSIS

While an immense amount of valuable labor has been performed by various agencies in the control of tuberculosis in Georgia, so much more remains to be done that there is grave danger that a level has been nearly reached beyond which it will be difficult to pass unless the need of certain measures is recognized and means for carrying them out are provided.

The State Health Department has operated a tuberculosis field clinic since October 1930, the purpose of which is to assist physicians in the diagnosis of tuberculosis, to locate cases, and contacts, that the first may receive treatment and the latter protection from further infection and to make medical inspections frequently enough to insure discovery of tuberculosis, should it develop, sufficiently early that the usual care and supervision could be expected to bring about arrest of the disease. In addition, ten nurses have been provided by the FERA to give to 137 counties in the state a tuberculosis public health nursing service which they otherwise would not have had. In the other sixteen counties in which field clinics are being conducted regularly this service is being furnished by the county health nurses. Through the offices of this nursing and field clinic service an average of a hundred new cases are being brought to notice each month. At least 90 per cent of these are cases that will require treatment, medical supervision and social service to some degree for long indefinite periods. The physicians of the state have responded nobly to the call for assistance in the effort to stamp out this still formidable disease which is a major cause of death, of great suffering and of enormous economic loss to society. These physicians have been unstinting in their service to the very great number of unfortunate beings having tuberculosis and requiring their aid. Many physicians have especially fitted themselves to administer artificial pneumothorax, phrenic nerve interruptions and other modern lung collapse measures, so that many sections of the state have such service available when formerly it was impossible to secure it except in tuberculosis sanatoria or in large medical centers.

It is well known that tuberculosis is a disease requiring under the most favorable

conditions months and often years to bring about arrest. By arrest is meant that there must have been no clinical or x-ray evidence of disease for a period of six months. Since it is generally conceded that there are five active cases to each death, there must be about 10,000 cases in the state with less than 700 beds to care for them. If each patient could have only an average of twelve months institutional care—and this period is much too short to effect real cures—an impossible number of beds would be required! The number awaiting their turn to occupy the few beds that are available is so great that many will die while waiting to be admitted and many will be finally admitted too late for any real benefit to accrue. The point is that we will have to think less in terms of sanatorium treatment for people with tuberculosis and more in terms of their proper care and treatment at home. At least we are compelled to adjust ourselves to the necessity of taking care of the tuberculous in their homes until sufficient institutional beds can be provided in convenient locations.

It is absolutely necessary, if tuberculosis is to be actually controlled, that we open our eyes to what is necessary to cure tuberculosis, to what is required to prevent infection of countless thousands and to prevent the development of this disease in people who through the neglect of society are permitted to become infected. More than fifty per cent of the general population is infected with tubercle bacilli. To prevent infection isolation of open cases of tuberculosis is necessary plus proper disposal of sputum and other discharges which may contain bacilli. Both of these measures are difficult to establish since they require the intelligent co-operation of the patient, but if it were possible to prevent entirely person to person infection, two or three generations would witness the almost complete passing of tuberculosis as a disease of consequence and it would eventually be as rare as is yellow fever.

It may be stated as a fact that all of the tuberculosis we will have will develop from our present already infected group and from those who later may become infected. To prevent development of tuberculosis in those who have become infected we must consider contributing, or predisposing factors, so that these individuals may avoid them. The things which favor the development of disease in such persons are those which tend to

break down general resistance, as overwork, dissipation, worry, inadequate diet and housing, frequent child-bearing, other diseases, and repeated infections with tubercle bacilli surely occurring to those who are compelled to live in daily household and familial contact with open tuberculosis.

The prime requisite in the treatment of tuberculosis is rest—absolute rest, mental and physically — for whatever duration is necessary. This means that in most cases months and sometimes years of enforced idleness are imperative. Because of the inability of the patient to live without work, or that the bread winner is unable to employ servants, the majority of the victims of tuberculosis are doomed because they are unable to secure this *one most important curative agent*. It is exceedingly rare that one may recover from tuberculosis without a long period in bed. This holds true even when lung collapse measures are employed, and a warning note is to be struck in this connection, because the increasing frequency of the use of these measures is leading patients and physicians alike to depend too much on them, forgetting that they are only very valuable adjuncts in suitable cases to a bed care regime continued until arrest of disease is attained, and that if such bed care and rest is not carried out long enough after these collapse measures are instituted or after short periods of sanatorium treatment, a subsequent breakdown is to be expected and the whole miserable expensive experience must be repeated, usually without the patient receiving the benefit he previously did.

Reason for Failure to Completely Control

While medical facilities for the diagnosis and treatment of tuberculosis are greatly increased over those of former years, *social service* still remains inadequate. And unless social service is properly and fully developed and utilized diagnosis is of little use, since advantage often cannot be taken of otherwise available treatment. Having shown the necessity of long periods of treatment and the need for isolation of patients capable of transmitting infection, it becomes evident that *means must be provided for both and this is the function of social service*. The great majority of families although able to take care of themselves in ordinary stress are unable without assistance to properly care for a member or members that develop tuberculosis. How absurd it is to tell the breadwinner to go to bed and rest mentally and physically when his family would suffer as a consequence. What mother could be mentally at ease, knowing that her children are suffering through neglect? There are many

families in just this situation and just so long as adequate assistance is withheld, just that long will tuberculosis be uncontrolled. Rehabilitation of these families and maintenance of family integrity through the assistance and guidance of welfare and relief agencies is far behind that of medical relief, and it is necessary that these services be developed to a point that will enable every one with tuberculosis to live without work as long as the physician believes necessary, to have the food, and treatment, medical and surgical, the physician deems advisable and to arrange so that the rest of the family, which may be considered infected, may comfortably sustain itself, or to sustain it in comfort until it does become self-sustaining. If such aid were provided the need for a large number of hospital beds would be lessened, although eight to ten small sanatoria (50 to 100 beds each) located so as to easily serve the entire state would be an ideal arrangement. Such sanatoria, each in charge of a full-time, properly qualified physician, would furnish beds for patients until they were taught the fundamentals of treatment and of prevention of tuberculosis, and for those requiring special forms of treatment until they were recovered sufficiently to visit their physicians for such treatment. These patients could be returned to their own homes as rapidly as the means for their proper care and maintenance could be provided.

From the foregoing it is concluded:

1. That in the control of tuberculosis medical facilities for its diagnosis and treatment, while greatly improved, are grievously hindered through deficient social service.
2. *To insure control of tuberculosis an adequate social relief program is vital.*
3. The establishment of small sanatoria in each district in the state would render more easily available medical and diagnostic clinic service.

H. C. SCHENCK, M.D.

The 64th Annual Meeting of the American Public Health Association will be held in Milwaukee, Wisconsin, October 7-10, 1935. This organization is a society of 4,500 professional public health workers whose annual sessions review developments in health protection and promotion and outline plans and policies for future advances.

Several related organizations have announced that they will meet simultaneously with the American Public Health Association at Milwaukee.

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 Battey, W. W., Augusta
 Baxley, W. W., Porterdale
 Bazemore, Wallace L., Macon
 Beasley, B. T., Atlanta
 Bell, Kenneth R., Atlanta
 Bell, Rudolph, Thomasville
 Benson, Marion T., Atlanta
 Benson, Marion T., Jr., Atlanta
 Berger, Louis, Atlanta
 Berry, Arthur N., Columbus
 Billings, J. E., Fairmount
 Binion, Richard, Milledgeville
 Bishop, E. L., Atlanta
 Bispham, W. N., Atlanta
 Bivings, Lee, Atlanta
 Blackburn, John D., Thomaston
 Blackford, L. Minor, Atlanta
 Blackman, W. W., Atlanta
 Blackmar, F. B., Columbus
 Blalock, J. C., Atlanta
 Blincoe, Homer, Emory University
 Bleich, J. Kelvin, Atlanta
 Boland, Chas. G., Atlanta
 Boland, Frank K., Atlanta
 Boland, Frank K., Jr., Atlanta
 Boland, S. A., Loganville
 Boling, Edgar, Atlanta
 Born, W. H., McRae
 Booth, Wm. T., Forth McPherson
 Bowcock, C. M., Atlanta
 Bowcock, Harold, Atlanta
 Bowdoin, Joe P., Adairsville
 Boyd, B. H., Atlanta
 Boyd, Montague L., Atlanta
 Boynton, Chas. E., Atlanta
 Bradford, H. B., Pine Log
 Bradley, R. H., Chatsworth
 Branham, H. M., Brunswick
 Brannen, C. C., Moultrie
 Brawner, Albert F., Atlanta
 Brawner, Jas. N., Atlanta
 Brawner, Leon E., Atlanta
 Brewer, A. M., Tunnell Hill
 Bridges, B. L., Ellaville
 Bridges, R. R., Leary
 Brittingham, John W., Augusta
 Broadrick, G. L., Dalton
 Brock, Sam, Augusta
 Brooke, Geo. C., Canton
 Brooks, Henry W., Buena Vista
 Brown, Stewart D., Royston
 Brown, Stephen T., Atlanta
 Bryans, C. I., Augusta
 Bryant, C. H., Comer
 Bucknell, Howard, Atlanta

Bullard, T. P., Palmetto
 Bunce, Allen H., Atlanta
 Burch, J. C., Atlanta
 Burgess, Taylor, Atlanta
 Burke, B. R., Atlanta
 Burpee, C. M., Augusta
 Busey, T. J., Fayetteville
 Bush, A. R., Hawkinsville
 Bussell, B. R., Waycross
 Byne, J. M., Jr., Waynesboro
 Byrd, T. Luther, Atlanta

C

Cabaniss, W. H., Athens
 Calhoun, Abner W., Atlanta
 Calhoun, F. P., Atlanta
 Callaway, Enoch, LaGrange
 Callison, H. Grady, Augusta
 Camp, Milton N., Augusta
 Camp, R. T., Fairburn
 Campbell, J. L., Atlanta
 Campbell, W. E., Jr., Atlanta
 Carter, D. M., Madison
 Carter, R. L., Thomaston
 Cary, H. B., Augusta
 Cason, W. M., Sandersville
 Cathcart, Don F., Atlanta
 Chaffin, E. F., Toccoa
 Champion, W. L., Atlanta
 Chappell, Aney, Atlanta
 Charlton, T. J., Savannah
 Chauldron, P. O., Cedartown
 Cheek, Ovid H., Dublin
 Cheek, Pratt, Gainesville
 Childs, J. R., Atlanta
 Childs, LeRoy W., Atlanta
 Chisholm, Julian F., Jr., Savannah
 Christopher, F. E., Atlanta
 Churchill, C. W. Thomson
 Clark, Jas. J., Atlanta
 Clark, T. H., Douglas
 Clark, W. H., LaGrange
 Clarke, M. L. B., Atlanta
 Clay, Grady E., Atlanta
 Clifton, Ben H., Atlanta
 Cline, H. McH., Atlanta
 Cochran, Hugh L., Atlanta
 Cofer, Olin S., Atlanta
 Coile, F. W., Winterville
 Coker, Grady N., Canton
 Coleman, Y. R., Macon
 Coleman, Warren A., Eastman
 Collier, Thos. J., Atlanta
 Collin, Thos., Atlanta
 Collins, B. E., Augusta
 Colvin, E. D., Atlanta
 Combs, J. A., Atlanta
 Compton, H. T., Atlanta

Cone, R. L., Statesboro
 Connor, J. C., Cave Springs
 Cook, Wm. C., Columbus
 Cooke, W. L., Columbus
 Copeland, H. J., Griffin
 Corn, Ernest, Macon
 Corry, J. A., Barnesville
 Coulter, R. M., LaFayette
 Covington, J. F., Cartersville
 Cowan, Z. S., Atlanta
 Cox, Ross P., Rome
 Crawford, C. B., Blue Ridge
 Crawford, Clyde L., Atlanta
 Crawford, H. C., Atlanta
 Crawford, W. G., Acworth
 Crichton, R. B., Augusta
 Cross, Jno. B., Atlanta
 Curtis, W. L., College Park

D

Dabney, W. C., Atlanta
 Daly, Leo P., Atlanta
 Dancy, William R., Savannah
 Daniel, Chas. H., College Park
 Daniel, W. W., Atlanta
 Daniels, C. W., Atlanta
 Darden, Horace, Sparta
 Davenport, T. F., Atlanta
 Davis, A. W., Warrenton
 Davis, B. B., Gainesville
 Davis, E. B., Byromville
 Davis, J. Weyman, Athens
 Davis, Shelley C., Atlanta
 Davidson, A. A., Augusta
 Davison, Hal M., Atlanta
 Davison, T. C., Atlanta
 Dean, J. G., Dawson
 Dellinger, A. H., Rome
 DeLoach, L. A., Savannah
 Denton, Jno. F., Atlanta
 Derrick, H. C., Oglethorpe
 Dew, J. Harris, Atlanta
 Dickens, C. H., Madison
 Dickson, R. W., Atlanta
 Dimmock, A. M., Atlanta
 Donaldson, H. R., Atlanta
 Dorsey, Rufus T., Atlanta
 Dougherty, Mark S., Jr., Atlanta
 Dorrough, W. S., Atlanta
 Dover, J. C., Clayton
 Downey, J. H., Gainesville
 Drane, Robert, Savannah
 Duncan, John, Atlanta
 Dunn, Wm. M., Atlanta
 DuVall, W. B., Atlanta

E

Earl, H. L., Sparta
 Easley, Frank, Dalton
 Eberhart, C. A., Smyrna
 Echols, Geo. L., Milledgeville
 Edgerton, M. T., Atlanta
 Edmondson, H. T., Moultrie

Egan, M. J., Savannah
 Elder, C. D., Marietta
 Elrod, J. O., Forsyth
 Elkin, D. C., Atlanta
 Ellis, H. C., McDonough
 Elliott, Jno. L., Savannah
 Elmore, B. V., Rome
 Emery, W. B., Atlanta
 English, R. E. L., Griffin
 Equen, Murdock, Atlanta
 Erwin, H. L., Dalton
 Estes, H. G., Atlanta
 Eubanks, Geo. F., Atlanta
 Evans, Albert L., Sandersville
 Ezzard, T. M., Roswell

F

Fancher, J. K., Atlanta
 Fanning, O. O., Atlanta
 Farmer, C. H., Macon
 Ferguson, I. A., Atlanta
 Fincher, E. F., Jr., Atlanta
 Fischer, L. C., Atlanta
 Fitts, Jno. B., Atlanta
 Floyd, Chas. S., Loganville
 Floyd, Earl, Atlanta
 Floyd, J. T., Atlanta
 Floyd, Waldo E., Statesboro
 Flowers, J. E., Doraville
 Fort, Arthur G., Atlanta
 Fort, Lynn, Atlanta
 Foster, Kemsey E., Atlanta
 Foster, Maud, Atlanta
 Foster, R. H., Atlanta
 Fountain, Jas. A., Macon
 Fowler, A. H., Marietta
 Fowler, M. F., Atlanta
 Fowler, R. W., Marietta
 Franklin, R. C., Swainsboro
 Freeman, Ralph, Hoschton
 Freeman, Ralph, Jr., Hoschton
 Fuller, Geo. W., Atlanta
 Fullilove, H. M., Athens
 Funkhouser, W. L., Atlanta
 Gaines, Lewis M., Atlanta
 Gardner, W. A., Atlanta
 Garner, J. E., Thomaston
 Garner, J. R., Atlanta
 Garner, Raleigh, Gainesville
 Gerrard, J. I., Milledgeville
 Garrard, J. L., Rome
 Garrison, D. H., Tate
 Gary, Loren, Georgetown
 Gary, Loren, Jr., Shellman
 Gausemel, S. D., Atlanta
 Gay, Bolling, Atlanta
 Gay, J. Gaston, Atlanta
 Gerdine, Linton, Athens
 Gewinner, V. G., Macon
 Gheesling, Goodwin, Greensboro
 Gholston, W. D., Danielsville
 Gibson, B. Harrison, Allenhurst

Giddings, Glenville, Atlanta
 Gilbert, R. B., Greenville
 Gilliam, O. D., Columbus
 Gober, Mayes, Marietta
 Goldsmith, L. H., Atlanta
 Goldsmith, W. S., Atlanta
 Goodpasture, W. C., Atlanta
 Goodwyn, H. J., Carrollton
 Goodwyn, T. P., Atlanta
 Goolsby, R. C., Jr., Macon
 Green, A. J., Union City
 Greenblatt, Robert B., Augusta
 Greene, Ed. H., Atlanta
 Grier, Chas. A., Oglethorpe
 Griffin, Hugh, Atlanta
 Grove, Lon, Atlanta
 Guffin, Claude, Atlanta
 Guffin, T. F., East Point
 Gunter, G. O., Blakely

H

Hafford, W. C., Waycross
 Hagood, G. F., Marietta
 Hailey, Howard, Atlanta
 Hailey, Hugh, Atlanta
 Hale, B. C., Rossville
 Hall, C. E., Jr., Atlanta
 Hall, J. I., Macon
 Hall, O. D., Atlanta
 Hall, Thos. H., Macon
 Hallum, Alton V., Atlanta
 Hames, Fred, Atlanta
 Hamm, W. G., Atlanta
 Harbin, R. M., Rome
 Harbin, R. M., Jr., Rome
 Harbin, W. P., Sr., Rome
 Harden, O. N., Cornelia
 Harper, G. T., Dewy Rose
 Harper, Harry T., Augusta
 Harrell, H. P., Augusta
 Harrell, J. P., Brunswick
 Harris, E. C., Hawkinsville
 Harris, M. H., Atlanta
 Harrold, Chas. C., Atlanta
 Harvard, V. O., Arabi
 Harvey, C. W., Hogansville
 Hawkins, T. I., Griffin
 Haygood, M. F., Atlanta
 Highsmith, E. D., Atlanta
 Head, D. L., Zebulon
 Head, M. M., Zebulon
 Heller, W. B., Toccoa
 Helton, B. L., Sandersville
 Hewell, Guy C., Atlanta
 Hilsman, A. H., Albany
 Hines, Joseph H., Atlanta
 Hinton, Chas. C., Macon
 Harrison, M. T., Atlanta
 Hodges, J. H., Hapeville
 Hodges, W. A., Atlanta
 Hodgson, Fred G., Atlanta
 Holden, J. S., LaGrange

Holt, J. T., Baxley
Hoppe, L. D., Atlanta
Howard, I. B., Williamson
Howard, Lee, Savannah
Howell, Stacy C., Athens
Holliday, J. C., Athens
Holmes, Champ H., Atlanta
Holmes, J. P., Atlanta
Holmes, L. P., Augusta
Holmes, Walter R., Atlanta
Holton, C. F., Savannah
Hubert, M. A., Athens
Huggin, P. M., Atlanta
Huguley, G. Pope, Atlanta
Hunt, Kenneth S., Griffin
Hunter, Conway, Atlanta
Hurst, Wm., Atlanta
Hutchins, W. J., Buford
Hutto, W. E., Atlanta

I

Irvin, I. W., Albany
Ivey, J. C., Atlanta

J

Jackson, J. H., Barnesville
Jackson, Richard L., Newnan
Jackson, T. W., Manchester
Jackson, Zach W., Atlanta
Jenkins, J. I., Hartwell
Jernigan, C. S., Sparta
Jernigan, H. W., Atlanta
Johnson, A. S., Elberton
Johnson, J. E., Jr., Elberton
Johnson, McLaren, Atlanta
Johnson, Trimble, Atlanta
Johnson, W. A., Elberton
Joiner, Hartwell, Gainesville
Joiner, R. M., Moultrie
Jones, Jack, Atlanta
Jones, Jno. Paul, Savannah
Jordan, J. R., Ellaville
Jordan, W. P., Columbus

K

Kay, Jas. B., Byron
Keaton, J. C., Albany
Kelley, D. C., Lawrenceville
Kelley, L. H., Atlanta
Kelley, W. A., Atlanta
Kelly, G. Lombard, Augusta
Kemper, Clifton G., Atlanta
Kennedy, J. P., Atlanta
Kenyon, Steve P., Dawson
Kinberger, A. G., Fort Benning
King, J. L., Macon
King, O. D., Bremen
King, Ruskin, Savannah
Kirby, E. G., Bowdon
Kirkland, W. P., Manchester
Kitchens, S. B., LaFayette
Kirkland, Spencer A., Atlanta
Kiser, William, Jr., Atlanta
Kite, J. H., Atlanta

Klugh, Geo. F., Atlanta
Kracke, Roy R., Emory University

L

Lake, Wm. F., Atlanta
Lancaster, E. M., Shady Dale
Lancaster, H. H., Clermont
Landham, J. W., Atlanta
Lang, G. H., Savannah
Lanier, J. E., Moultrie
Lawrence, Chas. E., Atlanta
Laws, Clarence L., Atlanta
Leadingham, R. S., Atlanta
Lennard, O. D., Tennille
Leophart, J. A., Jesup
Lewis, S. J., Augusta
Linch, A. O., Atlanta
Lindley, F. P., Powder Springs
Lipscomb, W. E., Cumming
Long, W. V., Savannah
Longino, D. R., Atlanta
Lowance, Mason I., Atlanta
Lundy, L. L., Boston
Lunsford, Guy G., Atlanta
Lyle, W. C., Carrollton

M

Malone, O. T., Atlanta
Manget, J. D., Atlanta
Mann, F. R., McRae
Martin, F. M., Shellman
Martin, J. D., Jr., Atlanta
Martin, Jas. J., Atlanta
Martin, Wm. O., Jr., Atlanta
Mashburn, C. M., Atlanta
Massee, Joseph C., Atlanta
Massey, W. F., Chester
Mathews, W. L., Winder
Matthews, J. I., Dallas
Matthews, O. H., Atlanta
McAliley, R. Geo., Atlanta
McAllister, J. A., Atlanta
McArthur, Chas. E., Cordele
McArthur, J. T., Rome
McCarver, W. C., Vidette
McClain, M. C., Tate
McCord, Jas. R., Atlanta
McCord, M. M., Rome
McCord, Ralph B., Rome
McCoy, C. G., Atlanta
McCoy, H. S., Sylvester
McCoy, W. R., Alma
McCurdy, E. C., Shellman
McCurdy, J. W., Augusta
McCurdy, W. T., Stone Mountain
McCurry, W. E., Hartwell
McCulloh, Hugh, West Point
McDaniel, J. G., Atlanta
McDaniel, J. Z., Augusta
McDonald, Harold P., Atlanta
McDonald, Paul, Bolton
McDougall, J. Calhoun, Atlanta
McDougall, Wm. L., Atlanta

McElveen, J. M., Brooklet
McGeary, W. C., Madison
McGehee, H. M., Atlanta
McGehee, John M., Cedartown
McKemie, H. M., Albany
McKinney, J. C., Athens
McKinney, W. T., Cave Springs
McLarty, M. W., Atlanta
McMath, J. F., Americus
McRae, Floyd W., Atlanta
Mercer, J. E., Vidalia
Mestre, Ricardo, Atlanta
Myers, Martin T., Atlanta
Michel, H. M., Augusta
Miller, G. T., Macon
Miller, Hal, Atlanta
Mims, F. C., Atlanta
Minchew, B. H., Waycross
Mitchell, Chas., Atlanta
Mitchell, W. C., Smyrna
Mitchell, W. E., Atlanta
Minnich, W. R., Atlanta
Monfort, J. M., Atlanta
Montgomery, R. C., Butler
Morrison, H. J., Savannah
Moon, P. Leonidas, Atlanta
Mooney, A. J., Statesboro
Moore, Henry M., Thomasville
Mulherin, Philip A., Augusta
Mulherin, Wm. A., Augusta
Mull, J. H., Rome
Murphey, Eugene E., Augusta
Murphy, F. B., Canton
Murray, Geo. M., Atlanta
Murray, G. S., Columbus
Muse, L. H., Atlanta
Myers, Wm. H., Savannah

N

Nabors, Dewey T., Atlanta
Nash, Thos. C., Philomath
Neill, Frank K., Albany
Newberry, R. E., Atlanta
Nesbit, F. C., Atlanta
New, J. E., Dexter
Newman, W. A., Macon
Newsom, N. J., Sandersville
Newton, R. G., Macon
Nicholson, J. H., Atlanta
Nicolson, Wm. P., Atlanta
Norris, Jack C., Atlanta
Norvell, J. T., Augusta
Nutt, J. J., Bowdon

O

Olds, Bomar A., Atlanta
O'Neal, J. C., Savannah
O'Neal, R., West Point
O'Neal, R. S., LaGrange
Oppenheimer, R. H., Emory University
Orr, J. C., Buford
Osborne, V. W., Atlanta

Overby, N., Sandersville
Overstreet, E. J., Baxley
Owensby, N. M., Atlanta

P

Paine, C. H., Atlanta
Palmer, J. W., Ailey
Parham, J. B., Ellijay
Parham, L. S., Atlanta
Park, Emory R., LaGrange
Parker, Francis P., Atlanta
Patterson, J. C., Cuthbert
Pattillo, C. E., Decatur
Paullin, Jas. E., Atlanta
Payne, R. Floyd, LaFayette
Peeler, J. E., Woodland
Pendergrass, R. C., Americus
Penland, J. E., Waycross
Pennington, C. L., Macon
Perkins, H. R., Rockmart
Perkinson, W. H., Marietta
Person, W. E., Atlanta
Petway, T. F., Atlanta
Phillips, A. M., Macon
Phillips, Hayward S., Atlanta
Pilcher, J. J., Wrens

Pinson, C. H., Hapeville
Pittman, J. L., Atlanta
Pittman, O. C., Commerce
Poer, D. Henry, Atlanta
Pomeroy, W. L., Waycross
Poole, E. T., Lavonia
Porch, Leon D., Macon
Porter, J. L., Rutledge
Powell, John, Atlanta
Powell, J. F., Eastman
Powell, Vernon E., Atlanta
Pritchett, D. W., Barnesville
Prather, W. S., Americus
Pruitt, M. C., Atlanta
Puett, W. W., Norcross

Q

Quillian, G. W., Atlanta
Quillian, W. Earl, Atlanta

R

Randolph, Wm. L., Winder
Rankin, D. T., Alto
Rayle, A. A., Atlanta
Rawiszer, Hubert, Atlanta
Read, J. C., Atlanta
Reavis, W. F., Waycross
Redd, Stephen C., Atlanta
Redfearn, J. A., Albany
Reese, D. S., Carrollton
Reed, Clinton, Atlanta
Revell, S. T. R., Louisville
Reynolds, H. I., Athens
Rhodes, C. A., Atlanta
Rhodes, John A., Crawfordville
Rhodes, R. L., Augusta
Rhyne, W. P., Warm Springs
Richards, W. R., Calhoun
Richardson, C. H., Macon

Richardson, Jeff L., Atlanta
Ridley, C. L., Macon
Ridley, Harry W., Atlanta
Riley, J. G., Atlanta
Ritch, Thos. G., Jesup
Roberts, B. J., Cornelia
Roberts, C. W., Atlanta
Roberts, M. Hines, Atlanta
Roberts, O. W., Carrollton
Roberts, Stewart R., Atlanta
Roberts, Will, Atlanta
Rosenberg, H. J., Atlanta
Robinson, L. B., Atlanta
Rogers, A. A., Commerce
Rogers, F. S., Coleman
Rogers, Harry, Atlanta
Rogers, J. V., Cairo
Rogers, T. E., Macon
Rougin, L. C., Atlanta
Roule, J. V., Augusta
Routledge, A. F., Rome
Roy, Dunbar, Atlanta
Rozar, A. R., Macon
Rushin, C. E., Atlanta

S

Sage, Dan Y., Atlanta
Sams, J. R., Covington
Sanders, A. S., Atlanta
Sandison, Calvin, Atlanta
Sanford, S. P., Savannah
Sauls, H. C., Atlanta
Scales, S. F., Carrollton
Schenck, H. C., Atlanta
Schley, F. B., Columbus
Schneider, J. F., Atlanta
Scoggins, Paul T., Commerce
Scott, W. M., Milledgeville
Seaman, H. A., Waycross
Seawright, E. C., Fayetteville
Seckinger, David L., Atlanta
Sellers, T. F., Atlanta
Selman, W. A., Atlanta
Sewell, W. A., Rome
Shackleford, B. L., Atlanta
Shallenberger, W. F., Atlanta
Shamblee, A. C., Cartersville
Shanks, E. D., Atlanta
Sharp, C. K., Arlington
Shepard, W. O., Buffton
Sherman, J. H., Augusta
Simpson, Thos. R., Augusta
Simonton, Fred H., Chickamauga
Simmons, Jno. W., Brunswick
Simmons, R. O., Rome
Sims, W. C., Richland
Sinkoe, S. J., Atlanta
Slack, Henry R., LaGrange
Smaha, T. S., Sneedville, Tenn.
Smith, Archibald, Atlanta
Smith, A. C., Elberton
Smith, Carter, Atlanta
Smith, E. C., Donalsonville

Smith, Geo. B., Rome
Smith, Geo. L., Swainsboro
Smith, J. Allen, Macon
Smith, J. G., McDonough
Smith, J. M., Valdosta
Smith, J. R., Atlanta
Smith, Linton, Atlanta
Smith, Leighton A., Quitman
Smith, Lewis, Lakeland
Smith, Lewis M., Atlanta
Smith, Randolph, Atlanta
Smith, R. H., Lincolnton
Smith, Simon H., Atlanta
Smith, S. S., Athens
Smith, W. A., Atlanta
Sommerfield, J. E., Atlanta
Spearman, G. F., Atlanta
Spruell, T. M., Temple
Stampa, Samuel, Atlanta
Standifer, J. G., Blakely
Starr, Trammell, Dalton
Stewart, Calvin B., Atlanta
Stewart, J. C., Atlanta
Stewart, P. R., Monroe
Story, W. L., Ashburn
St. John, J. O., Newnan
Strickler, C. W., Atlanta
Stockard, Cecil, Atlanta
Sweet, Mary F., Decatur
Swanson, Cosby, Atlanta
Swint, R. C., Atlanta
Sydenstricker, V. P., Augusta

T

Taylor, R. L., Davisboro
Teasley, B. C., Hartwell
Terrell, T. J., Waycross
Terry, H. B., Acworth
Tessier, L. P., Augusta
Thomas, D. R., Jr., Brunswick
Thomas, N. R., Albany
Thomas, W. L., Atlanta
Thompson, C., Millen
Thompson, D. O., Atlanta
Thompson, Ernest, Atlanta
Thornton, Lawson, Atlanta
Tidmore, T. L., Atlanta
Timberlake, G. B., Atlanta
Tippin, A. L., Jr., Claxton
Toepel, Theodore, Atlanta
Tolleson, H. M., Eastman
Travis, W. D., Covington
Traylor, Geo. A., Augusta
Treusch, Herbert L., Atlanta
Tribble, J. M., Senoia
Trimble, W. H., Atlanta
Turk, John P., Nelson
Turk, L. N., Atlanta
Turner, John W., Atlanta
Turner, W. W., Nashville
Tye, Robert L., McDonough

U

Upchurch, W. E., Atlanta

Upshaw, C. B., Atlanta
 V
 Venable, John H., Emory University
 Vansant, C. V., Douglasville
 Vinson, C. D., Atlanta
 Visanska, S. A., Atlanta
 W
 Wagoner, F. H., Augusta
 Walker, Geo. L., Griffin
 Wall, C. K., Thomasville
 Wall, J. C., Eastman
 Wallis, J. R., Lovejoy
 Walton, John M., Atlanta
 Ward, Emmett, Atlanta
 Ward, Eugene L., New Holland
 Ware, D. B., Fitzgerald
 Ware, Ford, Macon
 Ware, F. L., Warrenton
 Waring, A. J., Savannah
 Warren, Wm. C., Atlanta
 Wasden, C. N., Macon
 Waters, W. C., Atlanta
 Watkins, A. R., Chamblee
 Watkins, E. W., Ellijay
 Watson, O. O., Macon
 Weaver, H. G., Macon

Weaver, J. C., Atlanta
 Weaver, O. H., Macon
 Webb, E. L., Atlanta
 Wells, Frank, Atlanta
 West, C. M., Atlanta
 Westmoreland, W. F., Atlanta
 Wheat, R. F., Bainbridge
 Whelan, E. J., Savannah
 Wheelchel, C. D., Gainesville
 Wheelchel, F. C., Alto
 White, John C., Atlanta
 Whitely, Seals L., Cedartown
 Williams, C. O., West Point
 Williams, Geo. A., Atlanta
 Williams, L. W., Savannah
 Williams, W. J., Augusta
 Willingham, T. I., Atlanta
 Wills, C. E., Washington
 Wise, B. T., Americus
 Wise, S. P., Americus
 Wilson, B. V., Decatur
 Wilson, R. B., Atlanta
 Wofford, W. E., Cartersville
 Wood, Chas. V., Cedartown
 Wood, D. L., Dalton
 Wood, E. B., Augusta
 Wood, R. Hugh, Atlanta

Woods, O. C., Milledgeville
 Wright, Edward S., Atlanta
 Wright, Geo. W., Augusta
 Wright, Jas. C., Atlanta
 Wright, Peter B., Augusta

Y

Yampolsky, Joseph, Atlanta
 York, J. H., Atlanta
 Young, W. W., Atlanta

Guests and Visitors

Barker, L. F., Baltimore, Md.
 Corn, Chas. P., Greenville, S. C.
 Crowell, Bowman C., Chicago, Ill.
 Hayden, Austin A., Chicago, Ill.
 Judy, W. S., Greenville, S. C.
 Kahn, Reuben L., Ann Arbor, Mich.
 Massey, W. W., Quincy, Fla.
 McCalla, L. H., Greenville, S. C.
 Murrow, J. S., Apalachicola, N. C.
 Sullivan, C. H., Charlotte, N. C.
 Thames, Rufus, Milton, Fla.

Georgia Dental Association

Howard, C. C., D.D.S., Atlanta

NEWS ITEMS

Dr. J. C. Patterson, Cuthbert, entertained the members of the Randolph County Medical Society at dinner on April 17th in honor of Dr. W. W. Binion, Benevolence. Dr. Binion has practiced medicine in Randolph county for fifty years. The members of the society presented Dr. Binion with a gold watch in commemoration of his services to humanity.

Glynn county was the winner in the Southeastern Division of the National County Health Conservation Contest sponsored by the United States Chamber of Commerce in cooperation with the American Public Health Association. Dr. M. E. Winchester, Brunswick, is the Glynn County Commissioner of Health. Each county which participated in the contest was visited by a representative of the American Public Health Association. Schedules were submitted in which its health practices and accomplishments were given in detail.

Dr. Wm. O. Martin, Jr., announces the removal of his office to Doctors Building, 478 Peachtree Street, N.E., Atlanta.

The Randolph County Medical Society held its regular monthly meeting at the Patterson Hospital, Cuthbert, on May 2nd. Dr. T. F. Harper, Coleman, read a paper on *The Use of Bismuth in the Treatment of Syphilis*.

The Fulton County Medical Society met at the Academy of Medicine, Atlanta, on May 16th. Dr. Jeff L. Richardson and Dr. Geo. W. Fuller reported a case, *Unusual Angina Pectoris*; Dr. Trimble Johnson made a clinical talk, *The Cathartic Curse of Modern Medicine*; Dr. R. S. Leadingham read a paper, *The Circulatory System in Senescence*. The discussion was led by Dr. R. Hugh Wood, Dr. E. A. Banker, Jr., and Dr. Carter Smith.

The Ware County Medical Society presented to the Medical Association of Georgia at its annual session in 1934 a cup with the following inscription engraved thereon: Presented by the Ware County Medical Society to the Medical Association of Georgia to be awarded annually to that member who has done the most outstanding work in the eradication of hookworm disease in the state." The cup has been deposited in the Treasury of the State of Georgia to be withdrawn annually to have the name of the member who may be selected by the Committee engraved thereon with a synopsis of his achievement.

The eighty-sixth annual session of the Medical Association of Georgia was held at the Biltmore Hotel, Atlanta, May 7-10, 1935. The Fulton County Medical Society entertained the members of the Association and Woman's Auxiliary at its annual banquet on Thursday evening, May 9th. Dr. Jas. J. Clark, Atlanta, Toastmaster, introduced all officers of the Association and Auxiliary. On behalf of the mem-

bers of the Association, Dr. William R. Dancy, Savannah, presented Dr. Allen H. Bunce, Atlanta, retiring Secretary-Treasurer, with a gold watch and described in detail the most excellent service Dr. Bunce has rendered the Association. Officers elected at the close of the session on May 10th were as follows: Dr. B. H. Minchew, Waycross, President-Elect; Dr. Jas. J. Clark, Atlanta, First Vice-President; Dr. Philip R. Stewart, Monroe, Second Vice-President; Dr. Edgar D. Shanks, Atlanta, Secretary-Treasurer for a term of five years; Dr. John W. Simmons, Brunswick, Parliamentarian for a term of three years; Dr. Olin H. Weaver, Macon, delegate to the A. M. A., and Dr. C. K. Sharp, Arlington, alternate delegate; Dr. M. M. McCord, Rome, Councilor, Seventh District; Dr. Grady N. Coker, Canton, Councilor, Ninth District; Dr. S. J. Lewis, Augusta, Councilor, Tenth District. Savannah was selected for the next meeting place, May 12, 13, 14, 15, 1936.

Dr. H. G. Huey, Homerville, entertained the members of the Ware County Medical Society at a fish fry at Dame's lake near Homerville on May 1st. This was a pleasant repetition of several former entertainments given by Dr. Huey at the lake.

The Georgia Medical Society, Savannah, met on May 14th. Dr. J. Reid Broderick read a paper entitled *Hyperparathyroidism, Its Diagnosis and Exclusion—Illustrated with Lantern Slides*; Dr. T. P. Waring and Dr. Chas. Usher led the discussion. Dr. E. N. Gleaton gave a case report, *Celiac Disease in Child Five Years Old*.

The Fulton County Medical Society met at the Academy of Medicine, Atlanta, May 2nd. Dr. Edgar H. Greene reported *A Survey of Recent Pelvic Surgery at Grady Hospital* (Colored Division); Dr. E. G. Ballenger, Dr. O. F. Elder and Dr. H. P. McDonald, case report, *The Vacuum Treatment for Undescended Testicle*; Dr. F. Kells Boland, Jr., *Late Ulnar Nerve Palsy*.

The staff meeting of Grady Hospital, Atlanta, was held on May 14th. Dr. Martin T. Meyers reported a case, *Osteomyelitis—Treatment*; Dr. M. F. Fowler, *Acute Encephalitis—Death*; Dr. Marion T. Benson, *Ectopic Pregnancy—Rupture—Death*; Dr. C. C. Aven, *Artificial Pneumothorax*.

The Coffee County Medical Society met at the Doucuff Hotel, Douglas, on April 30th. Dr. G. W. Willis, Ocilla, read a paper on *Pellagra*, which was followed by a general discussion. Other members made case reports. A later meeting of the Society was held on May 28th.

The staff meeting of the Piedmont Hospital, Atlanta, was held on May 13th. Dr. Floyd W. McRae reported a case, *Unusual Salivary Gland Calculus*.

Dr. F. C. Holden announces the opening of his office, suite 910 Candler Building, Atlanta, for the practice of general medicine and surgery.

The Georgia Medical Society, Savannah, met on May 28th. Dr. Geo. H. Lang read a paper entitled *Meningitis Following Infection in Para Nasal Sinuses*; Dr. G. H. Faggart led the discussion. Dr. W. O. Bedingfield reported a case, *Ovarian Tumor*.

The Kentucky State Medical Association dedicated a monument to Jane Todd Crawford, heroine of the first ovariectomy at McDowell Park, Danville, Kentucky, on May 30th.

The Ware County Medical Society met at Baxley on June 5th, as the guests of the Appling County Medical Society which has just been organized. Dr. T. J. Ferrell, Waycross, read a paper entitled *The Mortality Rate in Appendicitis*. Supper was served.

The Fulton County Medical Society met at the Academy of Medicine, Atlanta, June 6th. The scientific program consisted of a Symposium on Traumatic Diseases as follows: *Head Injuries*, Dr. J. Calvin Weaver; *Traumatic Lesions of the Thorax*, Dr. Dan C. Elkin; *Traumatic Diseases of the Abdomen*, Dr. I. A. Ferguson; *Back Injuries*, Dr. R. E. Newberry and Dr. L. N. Turk, Jr.; *Fractures of the Ankle*, Dr. Thomas P. Goodwyn and Dr. Henry W. Jernigan.

Dr. W. R. Houston, formerly of Augusta, has removed to and opened an office at 1209 Norwood Building, Austin, Texas.

The Third District Medical Association met at Americus on June 5th. The scientific program consisted of the following titles of papers: *Amebiasis—Analysis of Thirty Cases*, Dr. H. M. Tolleson, Eastman; discussion was led by Dr. Robt. C. Pendergrass, Americus. *Fascia Lata and Preserved Fascia in Hernial Repair*, Dr. Jesse H. York, Atlanta; discussion led by Dr. J. C. Patterson, Cuthbert. *Present-Day Conception of Diabetes*, Dr. Guy J. Dillard, Columbus; discussion led by Dr. Lewis Abram, Fitzgerald. *Head Injuries*, Dr. J. Calvin Weaver, Atlanta; discussion led by Dr. B. T. Wise, Americus. *Heart Failure in Middle Life*, Dr. Geo. S. Murray, Columbus; discussion led by Dr. Herschel A. Smith, Americus. *Exophthalmic Goiter*, Dr. D. Henry Poer, Atlanta; discussion led by Dr. Thos. M. Adams, Montezuma. *Address*. Dr. James E. Paullin, Atlanta, President of the Association. *Report of Councilor*, Dr. J. C. Patterson, Cuthbert, Councilor for the Third District.

Dr. J. R. Garner, Atlanta, Chief Surgeon for the A. & W. P. Railroad, Western of Alabama, and the Georgia Railroad, was elected Chairman of the Committee of Direction of the Medical and Surgical Sec-

tion of the Association of American Railroads in Atlantic City on June 11th.

Dr. James K. Fancker, Atlanta, reported a case of *Over-Development Sex Complex* in a man before the annual session of the American Medical Association in Atlantic City, June 11th. One of the glands was transplanted into a person suffering from subnormal sex development and was cured.

OBITUARY

Dr. Wyatt Hutchins Alexander, Blakely; member; Emory University School of Medicine, Atlanta, 1895; aged 60; died of carcinoma of the sigmoid at his home on April 17, 1935. He was born and reared in Blakely and was a member of one of the pioneer families of Early county. Dr. Alexander had an extensive practice in Early and adjoining counties, was local surgeon for the Central of Georgia Railroad for thirty-two years, served in the medical corps during the World War as First Lieutenant. Surviving him are his widow, three daughters, Mrs. McArthur Jones, Blakely; Mrs. R. B. Davidson, Maxwell Field, Ala.; Miss Dorothy Alexander, Ballston, Va.; one son, W. H. Alexander III, Chicago. Funeral services were conducted from the Baptist church by Rev. Spencer B. King. Burial was in the Blakely cemetery.

Dr. Alonzo F. Christopher, Pearson; Emory University School of Medicine, Atlanta, 1891; aged 82; died at his home on April 10, 1935. He was formerly a prominent Atkinson county physician but had retired several years ago. For his many charitable deeds and kindness he was loved by hundreds of acquaintances. Surviving him are his widow and three sons. The funeral arrangements were in charge of the Douglas Undertaking Company. Burial was in Sweetwater cemetery.

Dr. William J. Waits, Gray; member; Georgia College Eclectic Medicine and Surgery, Atlanta, 1895; aged 67; died at his home on April 25, 1935. He was born and reared in the Gladesville community of Jasper county. Dr. Waits began the practice of medicine at Flovilla, then removed to Gray. He was favorably known as a practitioner and as a Christian gentleman. He was a member of the Jones County Medical Society, past master of the Indian Springs F. & A. M. lodge No. 307, and served for years as deacon in the Baptist church. Surviving him are his widow and one daughter, Miss Lillian Waits. Funeral services were conducted from the residence. Burial was in the Flovilla cemetery.

Dr. James D. Hamrick, Carrollton; University of Georgia School of Medicine, Augusta, 1885; aged 77; died at his office on May 7, 1935. He was a native and lifelong resident of Carroll county. His

father moved from Troup county to Carroll about 1850. Dr. Hamrick served as physician for the county convict camp for more than a quarter of a century and during that time was never known to have missed a visit. He was kind and charitable. Dr. Hamrick was a distinguished Mason, served as Worshipful Master of Carroll Lodge No. 69 for many years; Grand Master of the Grand Lodge of Georgia for two terms, member of Scottish Rite Masonic lodge, Shrine, and one of only a few Masons holding a Masonic degree in the Supreme Chancellor of Oriental Order of Palm and Shell of the U. S. of America. He was an active and devoted member of the First Baptist church. Surviving him are his widow, four sons, Jas. D. Hamrick, Jr., West Point; Geo. Lee Hamrick, Atlanta; Malcolm Hamrick, Bristol, Tenn.; Neal Hamrick, Carrollton; two daughters, Mrs. Ralph Brown and Mrs. O. S. Miller, both of Carrollton. Funeral services were conducted from the Tabernacle Baptist church by Rev. H. P. Bell, Rev. E. A. Kilgore and Dr. Ellis A. Fuller, Atlanta. Masonic rites were conducted at the graveside. Burial was in the city cemetery.

Dr. John M. F. Barron, Milner; member; aged 78; died at his home on Liberty Hill, April 30, 1935. He lived practically all his life in Lamar county and was one of its most influential citizens. In addition to his many years devoted to the practice of medicine, he was pastor of a Primitive Baptist church for forty years. Surviving him are his widow, four daughters, Mrs. B. B. Bevil, Birmingham, Ala.; Miss Estelle Barron, Milner; Mrs. Geo. W. Whatley, Griffin; Miss Sara Barron, Atlanta; five sons, S. S. Millard, Ira, and Claude Barron, all of Milner; and Dr. Carey A. Barron, Kingsland. Funeral services were conducted by Elder A. C. Elliott, Elder Robert Barron, and Elder B. F. Williamson from the Primitive Baptist church. Interment was in the churchyard.

Dr. Archie Griffin, Valdosta; member; Louisville Medical College, Louisville, Ky., 1894; aged 65; died at his home of an illness of short duration on May 2, 1935. He was a native of Irwin county, began the practice of medicine in Ashburn and more than thirty years ago moved to Valdosta. Dr. Griffin was president of the Valdosta Press, Inc., publishers of the *Valdosta Times*; director of the First National Bank and Citizens & Southern National Bank of Valdosta. He was one of the organizers of the Little-Griffin Hospital and had an extensive practice in a wide area of south Georgia. Dr. Griffin was a member of the Lowndes County Medical Society, American Medical Association and the Methodist church for which he served as steward for many years. Surviving him are his widow; two sons, Carlos H. Griffin, Valdosta; and C. Ramon Griffin of Athens and Valdosta; one daughter, Mrs. James Young, Cedartown. Funeral services were conducted

from the First Methodist church. Burial was in Sunset Hill cemetery.

Dr. William Walker Evans, Blakely; member; Atlanta College of Physicians and Surgeons, Atlanta, 1902; died at his home on May 10, 1935. He was born and reared at Halcyondale, Screven county and received a collegiate degree at Mercer University, Macon, in 1898. Dr. Evans began the practice of medicine at Higgston; later he practiced at Millen, Halcyondale and Chattanooga, Tenn., before moving to Blakely. He was identified with the fraternal and religious activities of the community. Member of the Masonic lodge, member and deacon of the Union Baptist church. Surviving him are his widow, two daughters, Miss Augusta Evans and Miss Marialis Evans, both of Blakely; five sons, W. W. Evans, Jr., student at Vanderbilt University School of Medicine, Nashville, Tenn.; Kiah Evans, Chattanooga, Tenn.; Carey Evans, Screven county; John Edward Evans, Statesboro; Alfred Evans, Blakely. Funeral services were conducted by Rev. Spencer B. King, Blakely, and Rev. R. W. Selman, Chattanooga, Tenn., from the Union Baptist church. Burial was in the churchyard.

Dr. James H. Duggan, Irwinton; Southern Medical College, Atlanta, 1884; died at his home on May 11, 1935. He was a member of a prominent Laurens county family. Dr. Duggan began the practice of medicine in Wilkinson county forty-five years ago. He was held in high esteem by hundreds of acquaintances. Surviving him are his widow and eleven children. Funeral services were conducted at the graveside by Rev. J. E. Townsend. Burial was in the Stanley cemetery.

Dr. Amos D. Olds, East Point; Emory University School of Medicine, Emory University, 1887; aged 74; died on May 25, 1935 of injuries received from a locomotive engine after it hit his automobile in East Point. He was born and reared in Elbert county. Dr. Olds began the practice of medicine in Byron, then removed to East Point where he practiced until his death. He had been in active practice for more than forty years. Dr. Olds had many warm personal friends and did an extensive practice. He was a member of the College Park Baptist church. Surviving him are his widow, one son, Dr. Bomar A. Olds; two daughters, Mrs. Hubert Jacobs and Miss Eloise Olds, all of Atlanta. Funeral services were conducted by Rev. B. J. W. Graham and Rev. L. E. Roberts from the College Park Baptist church. Burial was in the city cemetery.

Dr. Edwin Green Greer, Chattahoochee; Atlanta College of Physicians and Surgeons, Atlanta, 1912; aged 53; died at his home on May 13, 1935. He was a native of Roswell and served as Major in the medical corps during the World War. Since the War,

he practiced at Chattahoochee where he had scores of close friends. Rev. T. P. Tribble conducted the funeral services from Spring Hill chapel. Burial was in the churchyard at Friendship church in Gwinnett county.

BOOK REVIEWS

Textbook of Pathology, Edited by E. T. BELL, M.D., Professor of Pathology in the University of Minnesota. Second Edition, enlarged and thoroughly revised. Pages, 767, with 364 engravings and two colored plates. Price, \$8.50. Philadelphia: Lee & Febiger, 1934.

This book of pathology approaches the ideal. Not a word is wasted and for those who wish more information the author of each section gives, not a whole bibliography with a lot of bunk, but a few of the best references. As an exemplar of the new fashion, the clinical aspects of the various conditions are covered clearly and concisely so as to lead to an understanding of the clinical condition by the medical student, as well as to remind the physician of the pathology back of the clinical picture. It would also serve quite well as a text of surgical pathology. The illustrations are well chosen and singularly clear.

It is hard in such a well rounded book to pick out from all the others any chapters for particular comment. The emphasis on the breast and endometrium in different physiologic phases may be commented upon. Diseases of the blood are covered with considerable detail. The chapters on the liver and on the kidney incorporate the latest advances of medical science in these fields, and it is hard to believe that they could be improved upon at this time.

It must be emphasized that this book is valuable not only for the undergraduate but also for the practicing physician.

—L. M. B.

Textbook of Histology, Functional Significance of Cells and Intercellular Substances. By E. V. COWDRY, Professor of Cytology in the School of Medicine, Washington University. 504 pages, 242 illustrations, 4 of them in colors. Price, \$5.50. Philadelphia, Lee and Febiger, 1934.

Dr. Cowdry opens with a discussion of the blood as being the substance which connects all parts of the body. The first year medical student is thus impressed with the unity of the whole body to begin with. This idea is echoed throughout the book. Function is likewise stressed throughout. The book thus overlaps to some extent the domain of physiology and prepares the student for pathology and indeed for clinical medicine. The volume is admirably adapted as a reference book and should be available to us all.

Those of us who have not been particularly interested in this preclinical subject will be very much surprised to find how many advances have been made in histology in recent years, all of which apparently

have been incorporated in this book. This book is so well written that it is entertaining reading.

—L. M. B.

Rats, Lice, and History—By Hans Zinnser; Atlantic Monthly Press, Little Brown & Co., Boston, Mass. I have just finished reading this book for the second time—in fact I have read parts of it three and four times it is so thoroughly entertaining. It is a very learned discussion of his main theme—the story of typhus fever and its influence upon the history of the human race. His quotations from the literature; French, Spanish, German, Latin, Greek, show how deeply he has investigated his subject. He casually mentions trips to Russia, the Mediterranean countries, and Mexico where he has made first hand studies of his subject. But it is his digressions from his main theme in which one finds the most delightful reading. His description of the life history of the louse is a classic. His comparison of the life and habits of rats with those of men is not very flattering to us, but most entertaining. One finds in this book some real philosophy, bits of sarcasm, a keen sense of humor, evidence that the author has read extensively, and knows his subject thoroughly. There is no pseudo-science or appeal to popular emotions. If you really want to enjoy a book and get some worthwhile information at the same time, I recommend this book.

F. G. HODGSON, M.D.

Alvin Russell Harnes, M.D., Chief of Congenital Luetic Clinic, New York Hospital, presented his book on *Clinical Management of Syphilis* in a most complete and easily readable form. One will be greatly surprised at the amount of sound theory contained in this little handbook. The salient points of syphilis are taken up in a systematic and very comprehensible manner. The outline of treatment laid down by the author in all stages of syphilis can easily be carried out by any practitioner. This publication will prove an asset to any doctor's library.

S. A. KIRKLAND, M.D.

BOOKS RECEIVED

Clinical Management of Syphilis by Alvin Russell Harnes, M.D., Chief of Congenital Luetic Clinic, New York Hospital, New York. Contains 71 pages. Publishers: The Macmillan Company, 60 Fifth Avenue, New York City. Price \$1.50.

The Doctor's Bill by Hugh Cabot with an introduction by A. Lawrence Lowell. "Who will pay the doctor's bill in the future? The patient? For lack of money, several million Americans today are receiving inadequate medical care, if any. The doctor? The average physician's income is falling. He is not getting proper compensation for his work. The state? Even now the public bears a heavy tax load." Contains 313 pages. Publishers: Columbia

University Press, 2960 Broadway, New York City. Price \$3.00.

Dietetics for the Clinician by Milton Arlanden Bridges, M.D., Director of Medicine, Department of Correction Hospitals, New York; Consulting Physician, Seaview Hospital, Staten Island, New York; Associate in Medicine and Lecturer in Therapeutics, New York Post-Graduate School, Columbia University; Assistant Attending Physician and Chief of Diagnostic Clinic, Post-Graduate Hospital, New York; Fellow of the New York Academy of Medicine. Foreword by Herman O. Mosenthal, M.D., Director of Medicine at the New York Post-Graduate Medical School, Columbia University, New York. Second Edition, thoroughly revised. Contains 970 pages. Publishers: Lea & Febiger, Washington Square, Philadelphia, Pennsylvania. Price \$10.00.

COMPULSORY SICKNESS INSURANCE

The action of the House of Delegates of the American Medical Association in reaffirming its opposition to proposed compulsory sickness insurance plans has had a far reaching effect. Delegates and officers of the State Associations have conveyed the spirit of the deliberations and action of the House to their respective organizations in a manner which has been especially gratifying. Many State and County Medical Societies have taken action opposing sickness insurance and have made their action known to the President, Bureau Heads, and Members of Congress. It is reported from Washington that the medical profession has never before made its united position known to Legislators in such an impressive manner. The indisputable evidence presented, indicating that the best interests of the public would not be served by proposed sickness insurance plans, must command the respect of those who will be responsible if any legislation is enacted.

Much has been accomplished since the House of Delegates in 1934 authorized the Board of Trustees to proceed with a program of direct approach to the lay-public in discussion of sickness insurance. Large and influential groups have been contacted and much more is known of the extent of public interest and the attitude toward sickness insurance. The Committee wishes to point out, however, that there remains one phase of this program which must be more actively carried on.

The interest and activity of the individual physician must be aroused to the degree that he will inform himself concerning sickness insurance, and present such information to the lay-public which he contacts. In this way he will aid greatly in crystallizing public opinion against harmful legislation.

Reports to the Committee indicate that the individual citizen of influence, who has been misled by public statements that needed medical care is not available to those financially less fortunate, has, from radio talks, magazine articles, and other propaganda,

come to believe that sickness insurance is desirable. Such a man can best be contacted through his personal friend, his physician. The best interests of the patient and the best interests of the physician are common, and it is not inconsistent with the ethical teaching of medicine for the physician to advise with him concerning sickness insurance. No special technique is needed in making individual lay-contacts. The physician is generally not without some ingenuity in matters of local interest. If he is opposed to some local project he does not hesitate to approach others in order to impress upon them the undesirable character of the proposal or to enlist their assistance in defeating it. Certainly there could be nothing of more vital importance than the threatened measure. Effort must now be put forth to arouse the individual physician to interest in his own position and to his responsibility to others.

Communication to secretaries of county societies alone frequently put upon those overworked local officers the whole burden of conducting a campaign in which the officers of that society should have the assistance of district or state officers or others. Literature and information on Sickness Insurance Legislation, having been mailed only to society secretaries, have frequently not come to the attention of many of the members. In many states every member has been directly addressed many times. Most medical societies do not meet regularly during the summer months and immediate action is necessary.

The American Medical Association will furnish needed literature on request.

Committee on Legislative Activities
of the American Medical Association.

E. H. CARY, M.D., *Chairman.*

C. B. WRIGHT, M. D.

F. S. CROCKETT, M.D.

R. L. SENSENICH, M.D.

By R. L. SENSENICH, M.D.

South Bend, Indiana,
March 30, 1935.

FOR VALUE RECEIVED

We are told that visitors inspecting the Lilly Laboratories find the ampoule department fascinating; that they marvel at the skill of the operators, the cutting, filling, sealing, numerous inspections, sterilizing, labeling, wrapping, and boxing. There are many facts, however, in the opinion of the guides who conduct inspection tours, unknown to the casual visitor and only revealed by detailed explanation. "Who," says your guide, "ordinarily would know, for instance, that the glass used in making Lilly Ampoules is any different from ordinary glass?" It seems that it is of a very special quality, practically alkali free and resistant to solvents. No one, we are told, assumes this to be true. It is determined by exacting laboratory tests.

Few visitors inspecting a pharmaceutical laboratory such as Lilly's, realize the extent of assay procedures.

They involve volumetric titrations, gravimetric determinations, alkaloidal shake-out procedures, the use of a polariscope, or physiological assay depending upon the nature of the drug. Even correct acidity or alkalinity is determined for each formula.

To the uninitiated, what appears to be a simple solution sealed in glass may seem to be rather costly. To those fully aware of what is back of a label on an ampoule, the wonder is that a product surrounded by such a wealth of detail can be produced for such a low price. The conscientious pharmacist and the particular physician find satisfaction in handling and using ampoules such as those in process in the Lilly Laboratories, because they offer truly dependable and reliable ampoule medication.

NEW TREATISE ON FOODS AND NUTRITION

A very interesting and instructive booklet on food values and nutrition has been prepared, covering particularly the newer knowledge of vitamin and mineral metabolism.

A clear-cut discussion of origin and function of all the accepted vitamins is indulged in. Charts showing the relative content of vitamins, calcium, phosphorus, and total caloric value of the most common foods are presented.

Though the booklet is small in size, it forms a very handy reference work to the busy practitioner and should be kept constantly on his desk. The book has been prepared by the R. B. Davis Company, the makers of Cocomalt, and may be secured without cost on request. Write to R. B. Davis Company, Dept. 000, Hoboken, N. J.

PRESENT STATUS OF MEAD JOHNSON

Vitamin A Research Award

This award was originally established by Mead Johnson & Company January 30, 1932. "Mead Johnson & Company announces an award of \$15,000 to be given to the investigator or group of investigators producing the most conclusive research on the vitamin A requirements of human beings." (See J.A.M.A., January 30, 1932, pages 14-15.)

On February 11, 1933 (J.A.M.A., pages 12-13), At the suggestion of the Judges, a second (additional) award of \$5,000 is now offered. The basis for this enlargement is in the obvious possibility that within the time limit set (Dec. 31, 1934), no suitable evaluation of the vitamin A requirements of human beings will have appeared. On the other hand, a laboratory investigation may have been published which will point the way toward clinical evaluation."

On the date, the Judges for the award were announced:

Issac A. Abt, Northwestern University; K. D. Blackfan, Harvard University; Alan Brown, Uni-

versity of Toronto; Horton R. Gasparis, Vanderbilt University; H. F. Hemholz, Mayo Clinic; Alfred F. Hess, Columbia University; E. V. McCollum, Johns Hopkins University; L. B. Mendel, Yale University; L. T. Royster, University of Virginia; and Robert A. Strong, Tulane University.

The Judges met in Detroit, April 10, 1935, and took the following action:

(1) To postpone until December 31, 1936, awarding of the main (Clinical) Award.

(2) To divide the second (Laboratory) Award, one-half to Dr. S. B. Wolbach, Harvard University, for his basic work on the pathology of avitaminosis A and his investigations on the regeneration of epithelial tissue impaired by vitamin A deficiency, and the relationship of vitamin A to the integrity of the teeth; and one-half to Dr. Karl E. Mason, Vanderbilt University, for distinguishing exactly between the pathology of avitaminosis A and avitaminosis E, and for his contribution to the quantitative relationship of vitamin A deficiency to the keratinization of germinal epithelia.

Some of this original work is still in press.

Checks for \$2,500 each, in accordance with the decision of the Judges, were promptly mailed by Mead Johnson & Company to Dr. S. B. Wolbach and to Dr. Karl E. Mason.

THE IMPORTANCE OF A NAME

When a physician prescribes or uses a gland product he may be thoroughly familiar with its indications and know within narrow limits what therapeutic results should follow its administration. The chances are, however, that he possesses very little information on the selection of material by the manufacturer, the method of handling, grinding, defatting, drying, testing, or other numerous details that are necessary to insure a potent dose which can be conveniently administered in the form of a capsule, a tiny tablet, or a hypodermic injection. Since the reputation of the physician depends upon his ability to diagnose disease and prescribe medicine to restore health and normal conditions there is obviously but one of two courses to pursue in the selection of therapeutic products: He must know how such potent products are made, or he must select the preparations of a manufacturer in whom he has implicit confidence.

An inspection of the department where gland products are prepared at the laboratories of Eli Lilly and Company is assuring and convincing evidence that extracts, solutions, capsules, and tablets of glandular products bearing the Lilly Label can be used with confidence. The materials used are said to be ordered under specification requirements that are most exacting. The glands must be carefully trimmed and separately frozen before they are packed. They are processed in the latest equipment under conditions of strict cleanliness. Physical, chemical, and, when possible, physiological, standards are rigidly maintained. Lilly Gland Products are said to be unvarying in

potency, color, volume, and stability. Most assuredly price means little when quality is so important, because anything less than the best is a reflection not only on the medication but on the physician as well. There is very little excuse for selecting a product merely because it is high priced; but, on the other hand, it is extremely unlikely, quality considered, that any manufacturer would be likely to offer a product of first quality at a lesser price than that of a standard house such as every physician knows Eli Lilly and Company to be.

METRAZOL

Metrazol, pentamethylenetetrazol, appears to possess a specific antagonistic action against the depressing effect of the barbiturates as evipal and nembutal, according to D. E. Jackson, University of Cincinnati, (J. Lab. & Clin. Med., Oct., 1934) who studied these drugs and others including amytal, avertin, pernoston, evipal trichlorethylene and ether, in dogs. In dogs anesthetized with ether, little stimulation of the respiratory center is apparent due to the more profound depression of the center, but in animals deeply anesthetized with the barbiturates and the other anesthetics used in this study, Metrazol produces marked specific stimulation of the respiratory center usually without any symptoms of tremors or convulsions. Experiments with all of the drugs were repeatedly done—the animal anesthetized and revived with Metrazol. The specific opposing actions of such drugs

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as the barbiturates and Metrazol on the respiratory center seems to be quite definite and clear-cut. Kymographic tracings illustrate the response of the depressed respiratory center, under the influence of the various anesthetics used, to the stimulating effect of Metrazol, aiding in overcoming the depression. At the same time, the associated vasomotor center is stimulated with a marked circulatory response, improvement in blood pressure, etc. Jackson also stated that anesthetized animals are much more sensitive to Metrazol than those not under the influence of depressing drugs. His experimental findings should be of considerable interest clinically in the treatment of shock from trauma, drowning, poisoning, etc.

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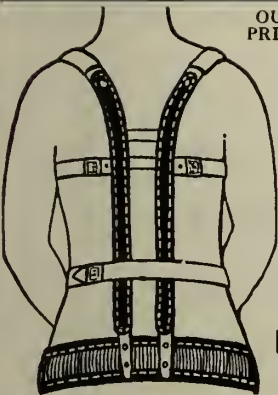
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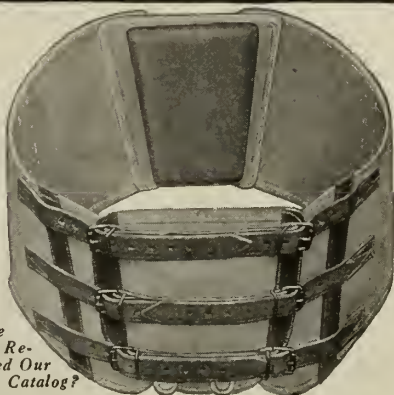
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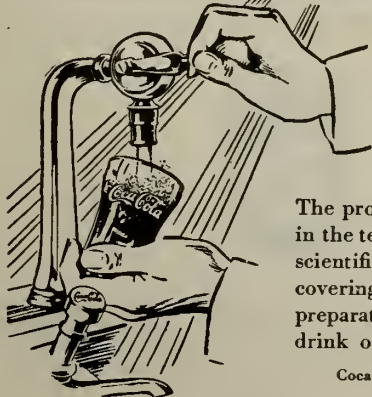
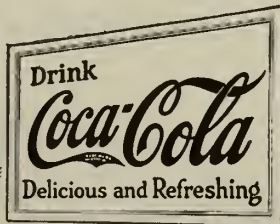


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LABORATORY AIDS IN THE DIAGNOSIS OF TYPHOID FEVER*

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Atlanta

There are several diseases of divergent etiology which simulate typhoid fever, yet, typhoid fever is so often atypical in onset and early course as to mislead the most experienced clinician and thus cause loss of valuable time in establishing a diagnosis.

The laboratory as an aid in the early diagnosis of typhoid fever is coming more and more into use. In order to employ the laboratory advantageously the physician should be familiar with the sequence of events in the bacteriology of this disease.

The typhoid bacillus enters the mouth through ingestion of infected food or drink. Passing through the stomach, the bacillus enters the intestinal tract and invades the lymphatics and the blood during the incubation period. The disease in its incipency is a generalized infection, with lymph glands and Peyer's patches becoming secondarily infected. The bacilli multiply chiefly in the lymphoid tissue. Autopsy findings indicate that they are most abundant in the duodenum, and decrease lower down, hence the organisms in the stool are derived largely from the biliary tract in the beginning of the disease. The necrosis of Peyer's patches which occurs later releases large numbers of bacilli in the stools.

After the first two weeks of fever, the bacilli become less numerous in the blood and, unless a relapse occurs, they soon disappear. As the bacilli decrease in the blood they increase in the intestinal tract, and they are excreted in enormous numbers during the third and fourth week of fever. Later the

biliary system no longer excretes bacilli and as Peyer's patches heal, the organisms become fewer in the stool, and disappear during convalescence.

Typhoid begins as a generalized infection characterized by a bacteremia and ends as an enteric infection. In the beginning typhoid bacilli are always present in the peripheral blood and later, toward the end of the infection, they are most abundant in the stools. Therefore, the laboratory procedure of choice for early diagnosis is the blood culture; and for delayed diagnosis, the stool culture. But it has been only during the past decade that laboratory technique has been developed which renders practical and reliable blood and stool culture.

The Blood Culture

In the past it was thought necessary that the blood be inoculated immediately into culture media before clotting, hence blood cultures were made only in hospitals or where they could be taken at the bedside of the patient. It has been found that the typhoid-paratyphoid group will remain alive in clotted blood for several days, or long enough to permit clotted specimens to be shipped by mail. In our experience the ordinary Keidel tube is very satisfactory for typhoid or paratyphoid culture. The use of bile salt media contributes largely to the success of the clot culture. The bile dissolves the clot and serves as an ideal medium for the growth of the organisms.

Since 1928 the State Department of Health Laboratory has obtained positive blood cultures in more than 2,000 cases of typhoid, chiefly from blood clots from specimens collected in Keidel tubes and shipped by mail. In many instances the blood specimens were 48 to 72 hours old. On repeated occasions we have had opportunity to compare our findings with epidemiological studies in localized outbreaks to find that our blood cul-

*Read before the Medical Association of Georgia, Atlanta, May 9, 1935.

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ture results were 100 per cent positive. For example, in 1933, a milkborne outbreak of 15 cases of typhoid occurred in a south Georgia city. Clotted specimens from 14 cases were submitted by mail in Keidel tubes. In every instance we obtained a positive culture. The fifteenth case was a child too small to bleed from the vein, but a stool culture was positive.

This is one of numerous instances of proof that the blood culture is simple of utilization and is the most reliable method for early diagnosis.

The Widal Test

The Widal test, once so popular, has certain limitations, viz:

First,—Agglutinins do not begin to appear in the blood until sometime after the first week, and at times they entirely fail to appear. Hence the Widal test is of no value in making an early diagnosis.

Second—Many persons who have had typhoid vaccine or a previous attack of typhoid fever will show positive Widal reactions for months or years thereafter.

Third—Non-specific typhoid agglutinins are often produced by scarlet fever, tuberculosis and typhus. These produce falsely positive Widal tests which may be confusing. It must be remembered however, that upon the Widal agglutination depends largely the differential diagnosis of certain other fevers which are often confused with typhoid. Chief of these are typhus fever (Brill's disease), undulant fever and tularemia. It has been for many years the policy of our laboratory to make agglutination tests for all of the above named infections on the serum portion of every specimen of whole blood submitted for diagnosis of fever. The following table shows the classification of positive Widal reactions for these diseases.

The Stool Culture

In the past we employed the stool culture as a last resort in obscure cases where negative blood cultures and Widal tests are obtained in the face of suggestive clinical findings, or in cases where diagnosis has for various reasons been delayed. The stool culture has long been used in detecting carriers. Its value in early diagnosis has been handicapped by the fact that typhoid bacilli are not very numer-

ous in the stools during the first two weeks of fever. All of the culture media heretofore employed in stool culture work allow the colon bacillus and many other organisms of the intestinal flora to grow just as readily as the typhoid bacillus and, therefore, it was difficult and often impossible to detect occasional typhoid colonies when the culture plates are crowded with those of the colon bacillus. Recently, a medium has been devised by Wilson and Blair of Belfast University which inhibits the development of colon colonies, but allows the typhoid bacillus to grow in a characteristic way. For two years Wilson and Blair's medium has been used in our laboratory with such success that we now believe it feasible to employ the stool culture for early diagnosis of typhoid. Just how reliable this procedure will prove to be as compared with the blood culture, only time and experience will decide. It is certainly much more accurate than the Widal test. In one instance a positive stool culture was obtained several days before the patient began to show clinical symptoms.

The stool culture is valuable in determining the termination of intestinal infection. Since the perpetuation of typhoid incidence depends on undetected and uncontrolled carriers of both the convalescent and chronic type, it is very important that no case of typhoid be released from observation of

TABLE I
Uncertainty of the Widal Test as Compared with the
Blood Culture in a Study of Fourteen Cases of
Typhoid in a Milk Borne Outbreak.

Date 1933	Case	Number Days I ¹	Macroscopic Widal	Blood Culture
11/4	N. G. 1	8	+	Positive
	N. G. 2	10	+++	Positive
11/4	C. J.	1	—	Positive
11/7	Mrs. H.	4	++	Positive
11/8	J. L.	4	—	Positive
11/8	C. H. 1	7	—	Positive
	C. H. 2	9	—	Positive
11/10	E. P.	5	+	Positive
11/10	V. C.	4	—	Positive
11/14	R. C. E.	10	+	Positive
	R. C. E.	16	+++	Positive
11/13	D. C.	7	—	Positive
11/16	Mrs. E.	4	++	Positive
11/14	W. J. H.	4	—	Positive
11/16	R. E.	3	—	Positive
11/20	S. P.	13	+++	Positive

TABLE II.
POSITIVE AGGLUTINATION REACTIONS AND POSITIVE BLOOD CULTURES
1929 - 1934, INCLUSIVE

Year	Total Specimens	POSITIVE AGGLUTINATIONS			POSITIVE BLOOD CULTURES		
		Typhus	Undulant	Tularemia	Typhoid	Para Typhoid	Undulant
1929	2,003	97	29	59	175	3	6
1930	2,950	244	40	58	322	4	4
1931	3,530	189	58	34	410	6	9
1932	3,836	305	56	31	390	8	4
1933	4,785	514	49	32	284	0	6
1934	5,529	399	74	80	399	7	12
TOTAL	22,633	1,752	306	294	1,980	28	41

the physician or the health authorities until at least two successive stool cultures have been obtained.

Paratyphoid Fever

It is impossible to make a definite diagnosis of paratyphoid fever clinically. On the false assumption that typhoid fever is always a severe long drawn out disease, many cases of mild typhoid of short duration are wrongly diagnosed as paratyphoid. Only in the laboratory can the true differentiation of these two diseases be made by the blood or stool culture. The paratyphoid bacillus types A and B grows just as readily in culture media as does the typhoid bacillus. In a series of 1,980 positive blood cultures in our laboratory over a six year period, only 28 were positive for the paratyphoids. Hence only 1.4 per cent of our cases of enteric fever are paratyphoids. This incidence is too small to warrant the use of a typhoid-paratyphoid vaccine, the manufacture and distribution of which was discontinued in 1934. Recent investigation has shown that little or no immunity against paratyphoid infection is produced by mixed vaccine.

Summary

As a result of improvement of laboratory procedures, the superiority of the diagnostic blood culture over all other methods yet devised is now becoming recognized.

The limitations of the Widal test are discussed in the differential diagnosis of certain

other fevers which are often confused with typhoid fever.

The culture medium of Wilson and Blair has greatly enhanced the value of the stool culture as an aid in typhoid diagnosis. The importance of detecting and controlling convalescent and chronic typhoid carriers is emphasized.

Paratyphoid fever can be differentially diagnosed only in the laboratory. The relatively low incidence of the paratyphoid infections in Georgia is established. Reasons for the discontinuation of mixed or typhoid-paratyphoid vaccine are given.

Discussion on Paper by Dr. T. F. Sellers

DR. DANIEL L. SECKINGER (Atlanta): I think Doctor Sellers' paper is important from the point of view of early diagnosis of typhoid, and sometimes an aid in late diagnosis. This is important to the patient, the family and the community. The early diagnosis of typhoid and the high percentage of positive examinations in the first week of the disease gives the physicians, public health authorities and community an opportunity to get after this disease early and prevent its spread. I have seen it spreading under every condition, in the homes of the laborer, destitute and wealthy. If the things Doctor Sellers found in the laboratory and recommends could be carried out in the state of Georgia generally, we would see a reduction of typhoid fever in this state of about two-thirds.

In rural areas, where the services of physicians are not utilized properly, typhoid fever may not be diagnosed until late, and sometimes not at all. Not long ago I was asked by a physician to go into a community to help work out the epidemiology of an outbreak of typhoid fever. While there I learned that this

physician, who had been in the typhoid area on one occasion, stated they were dealing with typhoid fever while another stated they were dealing with estivo-autumnal malaria. In these cases no blood work had been done. The physicians were not responsible for the condition, because in this area the people were unable to employ them regularly. The first thing that we had to do was to determine what the disease really was. Blood cultures were made, but it was rather late in the disease in some instances, and most of these were negative. With the Wilson and Blair medium, which really marks an advance in laboratory methods, we would have sent in stool cultures from all those individuals, and those cultures might have been positive in some instances. I wish to emphasize the importance of knowing what the stool culture shows, which is of great value in delayed diagnoses, and it also has an important general effect upon the community. When people know that here and there people may be spreading typhoid bacilli, they become more interested in the prevention of the spread of the disease to others.

Several years ago I made an epidemiological study of typhoid fever and problems associated with the control in this state. A paper was prepared and read before the Southern Medical Association in which it was stated that of thirty-two primary cases of typhoid fever, there were in those families, following these primary illnesses, a total of 101 secondary cases, a majority of which might have been prevented.

In addition to the great amount of vaccination and sanitation that we are doing in this state, we should pay more attention to the early and late diagnosis of typhoid, whether the case will spread the disease to others, and also to proper nursing and isolation procedures. We are attempting to stop up the dam from below, whenever the break occurs, without a proper knowledge of what is happening above. We should direct our efforts toward closer medical supervision and nursing care, which will aid in the prevention of the spread of the disease to others.

DR. T. F. SELLERS (Atlanta): I appreciate Dr. Seckinger's emphasis on the importance of early diagnosis, particularly in regard to preventing secondary cases. I thought he was going to refer to another phase of his recent investigation, made in 1932, which showed a number of cases which occurred in persons who previously received typhoid vaccine. Of 212 cases studied, there were twenty who had previously been vaccinated within eighteen months. At that time we were preparing to change the vaccine, that is, change the antigen, change the strain of organism used in making the vaccine. We were using an old strain which was brought over to this country by Colonel Russell in 1908, when vaccine use was begun in this country. The same organism had been used throughout, not only by our laboratories but by all laboratories. On the basis of the fact that we were getting so many reports of vaccine failure, we adopted a local strain, isolated from a case in the state. It had other characteristics that caused us to select that particular strain.

IRON DEFICIENCY ANEMIA*

Report of Case

H. D. ALLEN, JR. M.D.

Milledgeville

In Samson Wright's "Applied Physiology," it is stated that there is about three grams of iron in the blood and about one to three grams in the rest of the body. Five to ten milligrams of iron taken in the blood daily is sufficient to maintain an iron balance, and perhaps this balance can be maintained on very much less. "It is doubtful if iron deprivation plays much part in disease. Chlorosis is a condition in which the red corpuscles are diminished in number and the individual corpuscle is deficient in hemoglobin and the disorder is very readily cured by the administration of iron. But the pathology of the disease is very obscure.—The disease has now become quite rare but why it is disappearing or why iron cured the condition is not definitely known."

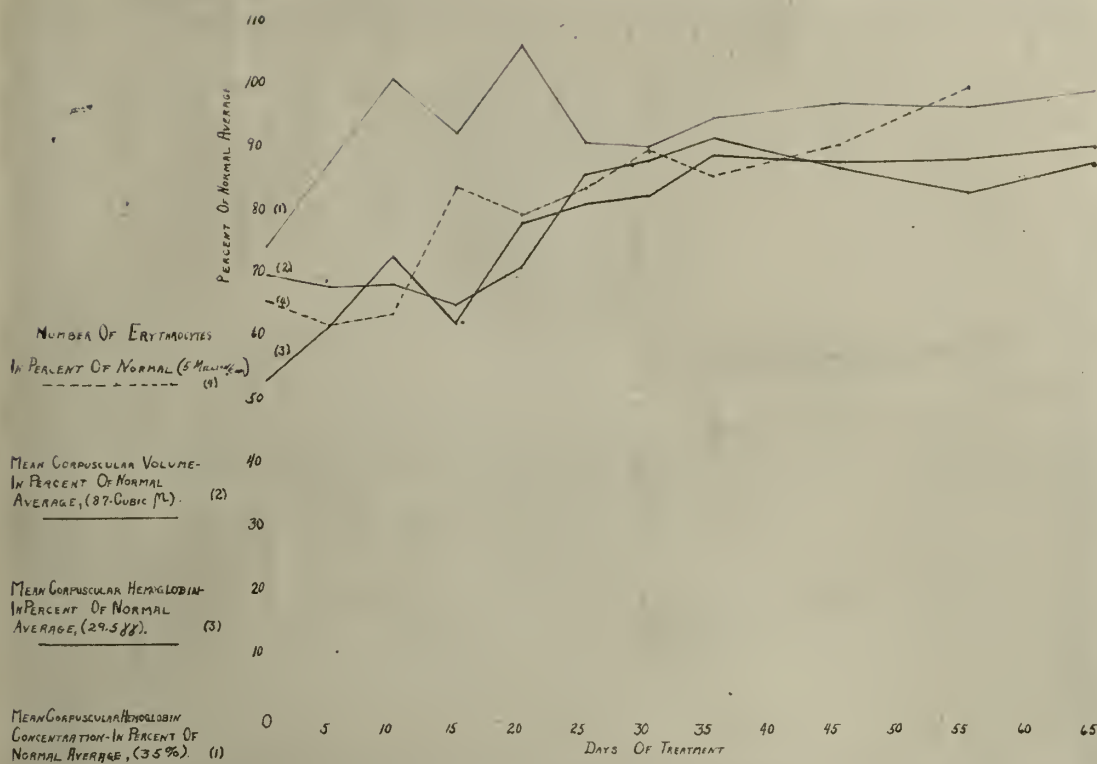
The stimulating effects of Whipples measurements of hemoglobin replacement and the application of his suggestion of ox liver as a therapeutic agent by Murphy and Minot in the treatment of pernicious anemia has focused much attention on the study of the hemoglobin and the red corpuscles. With a few simple postulations in arithmetic and physiological anatomy, the case presented is quite the antithesis of pernicious anemia, and an idea of extrinsic deficiency is concluded from the observation of the early phase of iron retention in the red corpuscles of this one incident.

The technical procedures and discussions are fully outlined by Pepper and Farley², and I am indebted to Dr. Charles B. Fulghum for the technical studies and the graphic representations of his blood findings. There is nothing original in the presentation of this case except fitting it to a theoretical consideration, as proof of the nature of the disease.

Expostulations, disregarding normal variations:

1. There are five million erythrocytes in

*Read before the Sixth District Medical Society, Macon, December 5, 1934.



a cc. of blood. These cells represent 45 per cent of the whole blood as measured by complete centrifugalization. The mean cell volume is ten millionth part of .9 c. mm. or 90 cubic micro-millimeters.

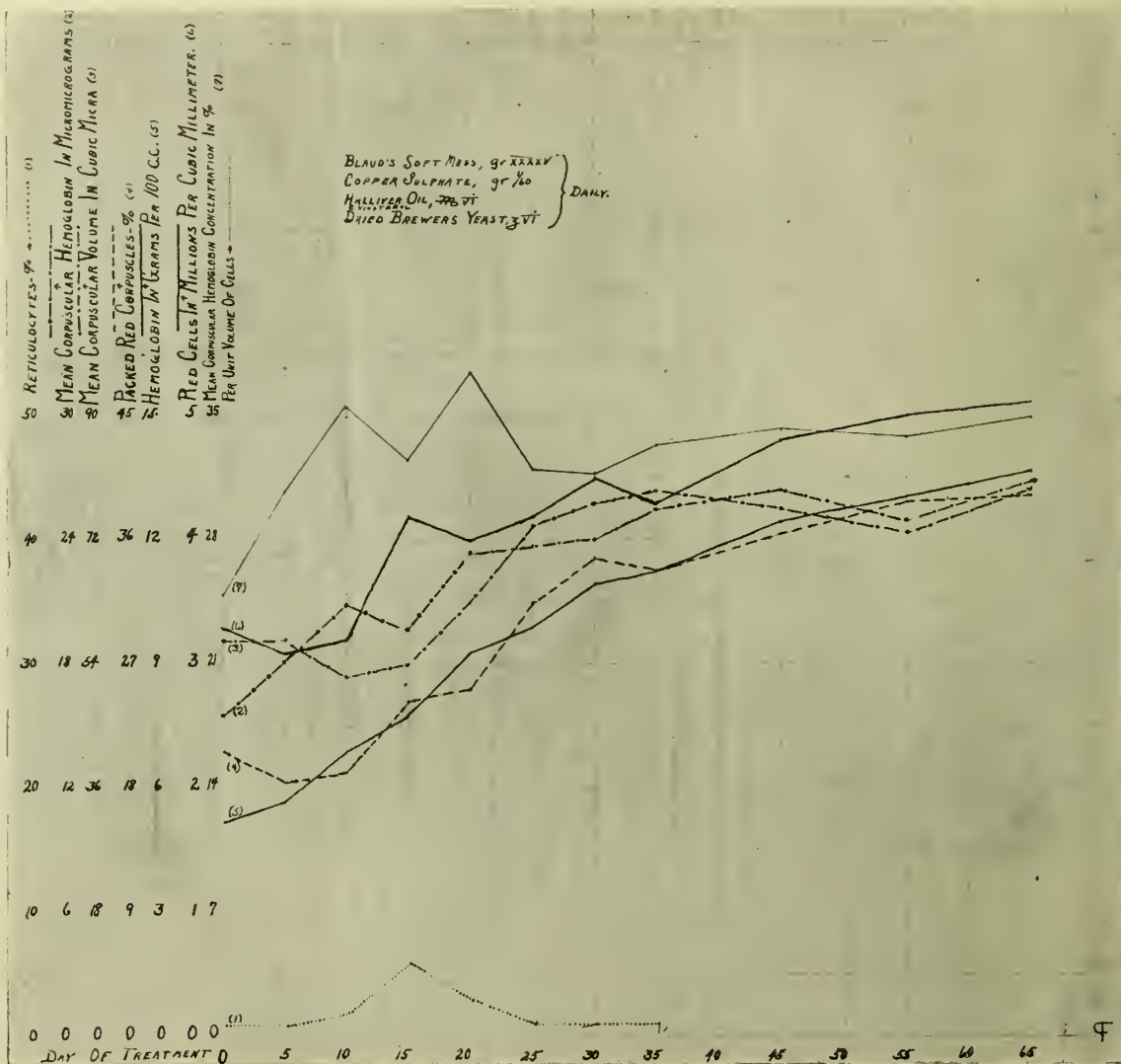
2. This whole blood contains 15.6 Gm. hemoglobin in 100 cc. and one cell contains 31 micro-milligrams of hemoglobin. A simpler and correlated figure of 34 per cent hemoglobin saturation is obtained by simply dividing the percentage of red cells into the hemoglobin in mg. (1560).

3. A disturbance in the cell number, cell color or saturation and the cell size gives at least twelve practical variations of combinations as diagrammatically represented by Pepper and Farley. These combinations including the polycythemias which are not strictly anemias and of course the anemias are always a diminished number of cells. For the time, number can be considered as constantly low and disregarded. The theoretical combinations of color (saturation) and size are reduced to nine combinations and six of these are of immediate practical importance.

- a. Normal Blood
(normochromic-normocytic)
- b. Primary Anemia
(normo or hyperchromic-macrocytic)
- c. Acute Hemorrhage
(hypochromic-normocytic)
- d. { Chronic Hemorrhage
- { Iron Deprivation
 (hypochromic-microcytic)
- e. Iron Administered
(normochromic-microcytic)
- f. { Iron Administered-
 { Wastage continued
 through chronic hemorrhage
 (hypochromic-normocytic)

4. The maturation of the erythrocytes is first bone marrow endothelium, then megalo-blast, normoblast, reticulocyte, and normocyte, with a getting rid of the nucleus and reticulum as the mature erythrocyte is saturated with hemoglobin and of course a chemically fixed proportion of iron.

5. The iron of the hemoglobin is conserved most efficiently in the body, being held back from the bile excreted in the feces and the urobilinogen of the urine, both supposedly fractions of the hemoglobin. The red corpuscle by nature of its biconcave disc shape



can increase or diminish its volume without altering its surface area, exposing the greatest amount of hemoglobin as the oxygen-carbon dioxide vehicle.

6. In primary anemia we have evidence of failure in stromatic maturation of the erythrocyte. In both acute and chronic hemorrhage resulting in appreciable anemia there is a simple failure in rate of maturing the erythrocyte, perhaps first, stimulation of bone marrow production of red cells, then exhaustion in chronic hemorrhage. In iron deprivation there should be the greatest amount of physical alteration to procure maximum use of available hemoglobin as the oxygen-carbon dioxide carrier.

Report of Case

A white woman, aged 47, was admitted to Allen's Invalid Home, September 14, 1933. Anamnesis from her husband portrayed an extremely psychopathic indi-

vidual with many emotional episodes, extreme jealousy, and quarrelsome disposition. Her psychopathic nature must have influenced her dietary if it were not secondary to the markedly subnormal nutritional state.

Her history, as she gave it, was negative for any unusual hereditary factors. She had been married eighteen years and had one daughter 16 years of age. No unusual illnesses up to 1922 when she had influenza complicated by a severe mucous colitis. Her present complaint was weakness, shortness of breath and fullness of the stomach. Since the attack of gastro-intestinal dysfunction she had been very guarded in her habits of eating, and had been on a grossly inadequate diet, living on fruit juices, tomato juice, small portions of strained vegetables and scarcely any proteins as meats, milk or eggs. During the past year she had become progressively weak, and developed extreme palor with shortness of breath and tachycardia upon exertion. She had not menstruated in over a year, but had no abnormality associated with her previous menstrual history.

Her initial physical examination showed emaciation, very dry hair, yellowish, pale, and dry skin, and a large black mole on the left foot. Her temperature

was 97 degrees, pulse, 88; respirations, 18; weight, 91 pounds; height, approximately five feet, six inches. Her eyelids showed a fine tremor; pupils were equal, regular, and reacted to light and accommodation; conjunctivae, pale; all teeth had been removed and she was wearing false dentures. Her heart and lungs were normal.

There was no tenderness or rigidity of the abdomen, but the liver margin was felt 1 cm. below costal margin in the mid-clavicular line. The spleen was barely palpable. The kidneys were both palpable and there was a general tendency to extreme visceroptosis. The pelvic examination was negative. There were a few external hemorrhoids present.

The neurological examination was negative for essential pathologic changes in sensations or reflexes. Coordination was normal.

Laboratory Findings: Two basal metabolic tests were minus one per cent and minus four per cent respectively. The urine was normal. The leukocyte count was 7,500 and the red blood count was 3,770,000 with 42 per cent hemoglobin. The corrected sedimentation test was .07 mm. per minute. See graphic representation for subsequent blood findings.

The gastric analysis showed a total acidity of 19 and no free acidity. After the administration of .18 mg. of histamine, the total acidity was 63 and the free acid was 45 after one hour. The feces were negative for occult blood.

The diagnosis was nutritional anemia, malnutrition and external hemorrhoids.

Comment

In this patient little or no evidence of chronic hemorrhage was discovered. The treatment consisted of routine diet, liberal amount of protein and dried Brewer's yeast (heaping teaspoon twice a day), and a ration of 45 grains of Blaud's pills daily, divided into three doses. The prompt saturation of the few small red cells before increase in size and number took place, points strongly to the lack of available iron for hemoglobin formation being a primary factor in the anemia of the patient. Had there been continued hemoglobin loss by chronic hemorrhage, prompt saturation would have been impossible if there is a physical limit to hemoglobin formation.

Conclusion

This one case of anemia points to a consideration that an anemia giving the picture of a hypochromic, microcytic oligocythemia responding to an initial course of iron therapy with a maximum saturation or becoming normochromic while still microcytic and oligocythemic, is an iron deficiency anemia of extraneous origin, most likely dietary. The therapeutic response of course excluding lack of gastro-intestinal absorption as a factor.

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PROSTATIC CALCULI*

Case Report

RUDOLPH BELL, M.D.

Thomasville

The slogan, "Science and skill will ultimately prevail over ignorance and superstition," is partly borne out by the fact that as recently as 1895 the existence of true prostatic calculi was denied. By 1906 this conviction was replaced by a "reasonable doubt" with the suggestion that if they did exist they presented no definite symptom complex. These erroneous ideas have been dispelled in the light of modern scientific methods of diagnosis.

In 1932 Lazarus and Rosenthal¹ stated that 370 cases of prostatic calculi had been reported in the literature, to which they added fifteen cases of their own. The majority of authors classify prostatic calculi in two groups. They are the endogenous or those calculi which are formed in the substance proper of the gland, and the exogenous, which are formed in the kidneys, ureters, bladder and urethra and finally become deposited in the prostate.

Etiology

Many theories have been advanced to explain the etiology of prostatic calculi, but only a few have been accepted. The diversity of opinion is an admission of failure in the discovery of the true causative factor of these calculi. The theory which has most adherents is the one expounded by Sir Harry Thompson² in the latter part of the 19th century. He maintained that the corpora amylacea may, under certain conditions, by acting as foreign bodies, lead to inflammatory changes within the prostatic acini in which there occurs a deposition of calcium salts with the resulting formation of concretions. Such concretions consist of organic nuclei surrounded by layers of inorganic material. Subsequently, the concretions attain the size of the acini harboring them and there occurs a deposition of dense earthy material with the conversion of the concretions into calculi.

*Read before the Thomas County Medical Society, Thomasville, December 20, 1934.

It is the opinion of some observers that trauma may play an important role. Others maintain that prostatic calculi result from a pre-existing prostatitis complicated by hypertrophy. A true history of gonorrhea is not ascertained in more than 35 per cent of the cases. Strictures act as a source of danger in that they produce a diminution in the size of the urinary stream, and may block small concretions in the prostatic area, which otherwise would pass out. The author shares the opinion of many others, that calculi of the prostate, as those found elsewhere in the body, can not be attributed to one predisposing factor, but to a variety of causes.

Size and Number of Stones—Age Group

Prostatic calculi vary in size. Nicolich³ reported a case in which the stone weighed 320 grams and measured 9 by 10.5 cm. The largest prostatic stone the author has to report measured 3.7 by 6.2 cm. and weighed 42 grams. The largest number of calculi found in any one case was 1247, and was reported by Rovsing⁴. The calculi were all small and distinctly in the prostate. Lowsley⁵ found 325 stones in a patient's prostate, who complained only of difficulty in urinating.

More cases of prostatic calculi occur after the age of puberty. The greatest number are found in the fifth decade. Two-thirds of all cases occur in the fourth, fifth and sixth decades. However, no age is exempt, as is evidenced by Olivieri⁶. Olivieri singles out a case, among the many in his service, occurring in a child aged 11 years. The stone's greatest length was 8 cm. and its greatest width was 4 cm. It weighed 60 grams. There had been hematuria for some time. At the age of four the child had to be catheterized for acute retention, and at the age of five, a vesical stone weighing 6 grams was removed.

Symptoms

If a careful history is taken, most patients with prostatic calculi will present some of the following classical symptoms, although all the symptoms are not present in any one case:

1. Diurnal and nocturnal frequency.
2. Dysuria and burning on urination.
3. Perineal, penile and rectal pain.
4. Urgency and tenesmus.
5. Hematuria.

6. Retention.
7. Impotentia and hematospermia.
8. Incontinence.
9. Urethral discharge.

A few patients present no symptoms and are accidentally discovered in a routine urologic study.

Diagnosis

Careful examination of the prostate per rectum will usually reveal some changes in the consistency of the gland compared to that of the usual consistency. It may be of stone-like hardness over the entire glandular area or it may be nodular. Nodular prostatic hypertrophy, carcinoma, and tuberculosis of the prostate gland are the lesions which most frequently cause confusion in the diagnosis. Tuberculosis of the gland can usually be ruled out by demonstrating the acid fast bacilli from the upper urinary tract. Crepitation, when elicited, is diagnostic within itself. X-rays, when taken at the proper angle, will most always reveal the presence of prostatic calculi as these stones are always of the shadow casting type. Authorities have stated that carcinoma and stone do not occur in the same patient. The writer recalls having seen carcinoma and stone associated in one case. Kretschmer⁷ reported having seen five such cases.

Treatment

Any stone in the prostate, regardless of symptoms, is a source of potential danger to the welfare of the patient and should be removed. There are four methods of accomplishing this feat, depending upon the number and size of the stones.

(1) Massage.—Very small stones may be liberated by gentle massage. This is rather unreliable, but it has been done.

(2) Transurethrally.—A medium sized stone may be engaged in such a way that the overlying tissues can be caught in the loop of the resectoscope and removed. The stone may then be liberated or pushed into the bladder and crushed in the usual manner.

(3) Perineal prostotomy.

(4) Suprapubic prostotomy.

Of the open operations, perineal section is the method of choice. The exposure of the prostate is done in the usual manner as for perineal prostatectomy.



The above illustrations show the size and shape of the stone removed.

The suprapubic route was chosen in the case here reported because the tip of the stone protruded into the prostatic urethra. A perineal incision for this type of case should be avoided due to the danger of perineal fistula being formed.

Report of Case

E. C., colored male, 45 years of age, was admitted to the John D. Archbald Memorial Hospital July 19, 1934, complaining of urinary incontinence and pain on urination of one year's duration. Because of a positive Wassermann this trouble had been attributed to syphilis. Various forms of treatment had been instituted, including antisiphilitic treatment. The positive physical findings were a systolic murmur over the precordium and a rapid pulse. The prepuce was adherent over the glans penis. The sphincter ani was very lax. The apex of the prostate protruded in the rectum and was stone-like in consistency. A tentative diagnosis of prostatic stone was made.

Under spinal anesthesia the patient was circumcised and a cystoscope was passed without difficulty, but the fenestra could not reach beyond the vesical neck, due to a markedly elongated urethra. On changing the position of the cystoscope it could be felt touching a stone. By repeating this maneuver a few times the tip of the stone was broken off and the stone could be seen protruding into the floor of the urethra between the vesical neck and the verumontanum. Under the same anesthesia a suprapubic prostaticotomy was performed and a large "bottle neck" stone removed. Two weeks after admission the patient was discharged from the hospital in good condition.

The generally accepted conviction that

syphilis covers a multitude of sins was no doubt responsible for the delay of the additional diagnosis of this case. No examination of an adult male is complete without inserting the finger in the rectum and palpating the prostate. Exactly how many deaths and how many sick days could have been, and can be avoided by the information obtained from this one simple procedure is indeterminable accurately, but the number is legion.

Summary

1. Calculi of the prostate is not an uncommon condition.
2. It may occur in the presence of syphilis.
3. No single factor will explain the true etiology of prostatic calculi.
4. Digital rectal examination and the x-ray are the most reliable aids in the diagnosis.
5. All prostatic calculi should be removed unless there is some contraindication.

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OVERCROWDING OF THE MEDICAL PROFESSION

During 1934 the names added to the British Medical Register amounted to 1,664, and 898 were removed by death and a small number by other causes, giving a net increase of 755, which brings the total number on the register up to 57,496. This figure may be compared with 44,761 in 1920 and 40,483 in 1910. In 1934 the number of medical students who registered was 2,350, a number without parallel save for the exceptional years of 1919 and 1920 following the war. Thus Great Britain is no exception to the overcrowding of the medical profession reported in other European countries, though this has not yet attracted attention here. Complaint of overcrowding has been made also in Australia. No cause has so far been assigned for the increase in Great Britain beyond a suggestion that there has been a considerable expansion in recent years of the public medical services. A more probable and regrettable cause is the great difficulty of the rising generation in the class from which medical students come in obtaining employment of any kind in this period of unprecedented industrial depression.—London letter, April 20, 1935.—*J. A. M. A.*, May 18, 1935.

RUPTURED AORTIC ANEURYSMS*

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It would seem that a ruptured aneurysm should be recognized with ease, but this is not always the case. A survey of the cases of ruptured aneurysms occurring in the University Hospital shows that the diagnosis is fraught with difficulties. Among 82,628 patients admitted to this hospital since 1917 the clinical diagnosis of aortic aneurysm was made 147 times (0.1654 per cent). In only 21 instances (14.2 per cent of aneurysms, 0.025 per cent of admissions) did rupture occur either prior to or after admission. So it may be said that ruptured aneurysms are truly rare and a rather infrequent termination of aortic aneurysms in general, the majority of patients with aneurysms dying of some intercurrent infection or associated disease.

There are ordinarily three complications of aneurysms: first, those due to pressure on and erosion of neighboring structures; second, cardiovascular functional complications (such as congestive heart failure, which is rare); and third, rupture. As a rule in cases in which a rupture of the aneurysm is the terminal event, signs and symptoms of pressure on neighboring structures have already appeared. An analytic study of our 21 cases of ruptured aneurysm brings forth several factors to be considered.

Racial Incidence: It is stated in all textbooks that aneurysms predominate in the negro (due to the prevalence of syphilis in the race). This was found to be the case. Eighteen cases, or 85 per cent of the ruptured aneurysms occurred in negroes, while only 3 cases occurred in whites.

Age Incidence: Here again, syphilis shows its influence, because if cardiovascular syphilis is the main causative factor, the aneurysm would appear at the age when the usual manifestations of cardiovascular syphilis occur. This is usually middle age, the period from 35 to 50 years. We find this to be true in our series. Fifteen, or 71 per cent, occurred between the ages of 35 and 50. Two pa-

tients were between 50 and 60 years old, 2 were over 60, and 2 were under 35.

Sex: Curiously, the predominance of males in this series coincides exactly with the percentage of negroes involved. Eighteen cases or 85.6 per cent were in males, while 3 cases were in females.

Syphilis: The incidence of syphilis closely parallels the racial incidence and the percentage of males affected. In the 21 cases, it was possible to ascertain whether syphilis was present in only 16 cases. Of these 16 cases, 13 had syphilis as evidenced by a positive Wassermann or a history of having taken anti-syphilitic treatment. Three did not have a positive Wassermann or history of primary sore. Thus, a percentage of 81 (of the 16) had serologic evidence of syphilis. It can readily be seen that the 85 per cent negroes, 85 per cent males, 71 per cent between the ages of 35 and 50, and 81 per cent with syphilis closely parallel each other, and seem to indicate that in at least 7 or 8 cases out of 10, the aneurysm which ruptures is a manifestation of cardiovascular syphilis.

Arteriosclerosis: Arteriosclerosis was present in 11 out of 14 ascertainable cases by autopsy or clinical evidence, a percentage of 78. It was absent in 3 cases. This indicates that arteriosclerosis plays an important part also in the etiology of aneurysms and particularly in their rupture.

Hypertension was not present as often as one would expect. In 15 cases in which the blood pressure was recorded, hypertension was found in 7 cases, or 40 per cent, and was absent in 8 cases, or 60 per cent. At least two of the latter cases were in shock on admission and some of the others were doubtful, so this rather negatives the observation.

The most striking feature presented in this study of ruptured aneurysms was the *difficulty of diagnosis*. Of the 21 cases, 18, or 85 per cent, died and 3 recovered. The diagnosis of a rupture of the aneurysm in these three cases was doubtful as will be shown later. In the 21 cases, 5 cases, or 24 per cent, were diagnosed as having ruptured aneurysms on admission or before death, and 16 cases, or 76 per cent, were not diagnosed as having ruptured before death or autopsy. The chief complaint in the cases was most interesting.

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A tabulation of the 21 chief complaints and presenting phenomena follows:

TABLE I.

Chief Complaints Presented in 21 Cases of Ruptured Aortic Aneurysms.

- Case 1. Pain in left abdomen, back and left hip.
- Case 2. Pain in back.
- Case 3. Shock, unconsciousness.
- Case 4. Pain around heart, indigestion, vomiting, dyspnea.
- Case 5. Dyspnea, dizziness, edema of feet and ankles.
- Case 6. Shock with marked dyspnea.
- Case 7. Pain in epigastrium and between scapulae, rigid tender abdomen, bleeding from mouth.
- Case 8. Pain in chest, hemoptysis.
- Case 9. Pain in left abdomen, lumbar spine and left flank.
- Case 10. Severe pain in thorax, partial collapse.
- Case 11. Retrosternal pain, dyspnea.
- Case 12. Dyspnea, edema of feet and ankles.
- Case 13. Abdominal pain and rigidity.
- Case 14. Pain in left chest, cough, loss of weight and appetite.
- Case 15. Dyspnea and cough.
- Case 16. Pain in right chest, and cough.
- Case 17. Episternal pain, dyspnea, nausea.
- Case 18. Pain in left chest, cough, fever.
- Case 19. Dyspnea, edema of feet and ankles.
- Case 20. Pain in lumbar region, both inguinal regions, and radiating down the left thigh.
- Case 21. Dyspnea, pain in chest.

This shows us that pain was the predominating symptom in these cases. In 15 cases, or 71 per cent, the patient came to the hospital because he had pain. In six cases the pain was in the abdomen, in 8 cases in the chest, and in 3 cases in the back.

Differential Diagnosis of a ruptured aneurysm is difficult. In the 21 cases, the diagnosis was confused with that of coronary thrombosis in 3 instances, or 14 per cent. In all of these cases there was pain in the chest, collapse, and dyspnea, sufficient to suggest coronary occlusion. Four times (19 per cent) the picture presented was that of an "acute abdomen," with pain in the abdomen, rigidity and vomiting. Congestive heart failure was considered the primary trouble three times. A picture of shock with etiology unknown but suggesting a ruptured viscus was present in two cases. Pulmonary hemorrhage was diagnosed once, pulmonary tuberculosis twice, and empyema once. Thus it can readily be seen that ruptured aneurysms are easily confused with more common clinical pictures.

In addition to pain, as before mentioned,

dyspnea was a prominent symptom in 10 cases or 47 per cent, hoarseness in one, dysphagia only once, cough six times, hemoptysis twice, inequality of the pupils in none, tracheal tug three times, atelectatic lung in one case. Some physical signs of aneurysm were noted in 13 instances, or 61 per cent, and none in 8 cases, or 39 per cent.

TABLE 2

Symptoms and signs presented by 21 cases of Aneurysms (Ruptured or which ruptured before death).

<i>Symptom or Sign</i>	<i>Present</i>	<i>Absent</i>	<i>% Present</i>
Pain	15	6	71.4
Dyspnea	10	11	47.
Hoarseness	1	20	4.7
Dysphagia	1	20	4.7
Cough	6	15	28.
Hemoptysis	2	19	9.5
Inequality of Pupils...	0	21	0.
Pulse Differences	2	19	9.5
Tracheal Tug	3	18	14.
Increased Dullness, Pulsations & Masses	13	8	61.

The x-ray was of little help. Only 9 cases were x-rayed, so that aneurysm was not suspected in the majority. Of these 9 cases, 7 showed the presence of a dilated aorta or aneurysm. The other two patients did not, although they later died of rupture.

The prognosis in cases of ruptured aneurysm is almost uniformly dire. Of the 21 cases, 18 patients died, while 3 recovered. However, in none of the 3 cases was diagnosis absolutely certain, it was merely the opinion of the attending staff. Of the three surviving patients, one case summary will be presented as typical of the three. Recovery seems improbable but not impossible. It is quite possible that an aneurysm might rupture and the hemorrhage be controlled by the surrounding tissues, for example, into the retroperitoneal tissues along the spine with blockage of further hemorrhage by the muscles and the process of organization and repair; but this is merely conjecture. Of the 18 fatal cases, autopsies were obtained in 15. The duration of life after rupture of the aneurysm was three days in one case (further indicating the possibility of a recovery), two days in another, one day in another, and one-half day in still another, with the remainder dying immediately after the rupture.

The location of the aneurysm and the cavities or organs into which it ruptures have much to do with the suddenness of death. If rupture occurs into a bronchus or the trachea, the patient is literally drowned in his own blood. On the other hand, if the rupture be into the retroperitoneal tissues, the patient may live several hours or days.

The post mortem findings are of interest. Fifteen autopsies were obtained in the 18 fatal cases. The situation of the aneurysms was as follows:

TABLE 3

<i>Situation of Aneurysms that Ruptured (Autopsy)</i>		
Ascending Aorta	8 cases	53%
Arch of Aorta	3 cases	20%
Descending Aorta	3 cases	20%
Abdominal Aorta	5 cases	33%

Several were Conjoint.

The cavity or tissues into which the aneurysms ruptured is also of interest. The aneurysms ruptured into the pleural cavity in two instances, one of which was concurrent with a rupture into the retroperitoneal tissues (connected through the diaphragm); into the pericardial sac five times; into the esophagus twice; into the trachea once; into the bronchi three times; into the right pulmonary artery (producing a massive pulmonary infarct) once; into the peritoneal cavity twice (one, jointly with a rupture into the retroperitoneal tissues); and into the retroperitoneal tissues three times. Thus, the most common site seems to be the pericardial sac, with the trachea, bronchi, and esophagus second as a group, and the retroperitoneal tissues third. Erosion of the vertebra, caused by the aneurysm, was found in 5 cases. Three of these aneurysms were dissecting in type.

In addition to the 21 cases studied, there were two instances of ruptured aorta which, according to the pathologist, did not have aneurysms present. Both cases presented marked atherosclerotic changes in the intima of the aorta and had a marked hypertension. The theory in these cases is that the very high blood pressure literally blew out the wall of the vessel and produced rupture.

In one of these cases, the diagnosis before death was coronary occlusion. A colored female of 50 suffered severe pain in the chest for about 12 hours before admission to the hospital. The blood pressure was 210/100. The heart sounds were clearly and easily

heard, with a loud, metallic aortic second sound. The lungs were clear. The patient did not live long enough to obtain an electrocardiogram. Autopsy showed a small rupture into the pericardial sac near the sinus of Valsalva and extensive dissection between the media and the adventitia as far as the diaphragm. A moderate narrowing of the coronary vessels was present, although they were not occluded. It was thought that the dissection of the aorta began with the onset of pain 15-18 hours before death, with the rupture of the aorta into the pericardial sac occurring at the time of death. No evidence of a previously existing aneurysm was present. White presents a similar case, except that in his case there was no lesion present in the coronary arteries.

Treatment is, of course, quite futile. In the cases recorded, it was merely symptomatic and supportive. Thinking of the repairs of stab wounds of the heart in recent years, and bearing in mind the possibility of a ruptured aneurysm in making a diagnosis, it seems particularly in those cases where the rupture is into the pericardial cavity, that prompt surgical relief of the existing tamponade with supportive treatment (phlebotomy or transfusion) and attempt at repair of the rupture might prove life-saving. The success of such a venture would depend largely on the extent of the rupture. In those cases in which rupture is into the retroperitoneal tissues and in which the patient occasionally lives one or more days, surgical intervention with supportive treatment might prove life-saving.

Summaries of four cases of the twenty-one follow:

Case 1.—A colored man, aged 30, was admitted to the hospital on February 28, 1920, complaining of pain in both inguinal regions, radiating posteriorly and upwards to the kidney regions and also down the inner surface of the left thigh. These symptoms had begun suddenly about eight weeks prior and had been steadily getting worse. The pain had no relation to urination. Anal incontinence had been present several days. He had contracted syphilis ten years before.

The lower lobe of the left lung showed signs of consolidation and fine rales were heard over the right lower lobe. Urinalysis was negative. Temperature was 98.0; pulse 100. The Wassermann reaction was 3 plus.

The examiner's impression at that time was

1. Lobar pneumonia,
2. Renal calculus.

March 3. A large pulsating mass was palpated in the left hypochondrium. The abdomen was distended. The knee kick was absent on the left. There was a numbness of the left thigh and leg, and this patellar



Specimen from Case 1. Showing aneurysm of descending aorta which dissected down the abdominal aorta, forming a large false aneurysm. Note extent of the dissection.

reflex was absent. The mass was thought to be an enlarged spleen.

March 17. He was seemingly improved. There was no discomfort, although the abdominal distention persisted.

March 21. He suddenly fell over dead in bed.

Necropsy: Aneurysm of the descending aorta; laceration of the intima; dissection formation of a large false sac from the abdominal aorta which extended down to the left femoral artery; extensive deposits of fibrin. See Fig. 1.

Case 2.—A negro man, aged 49, was admitted to the hospital on June 3, 1930, for pain in his back and hips. The pain had begun three months earlier and had been constantly growing worse. His blood pressure was 160/120. The pupils reacted sluggishly to light. The vessels of the neck were distended. The liver was barely palpable. Retinal arteriosclerosis was noted. The Wassermann reaction was a doubtful positive. The total output of phenolphthalein was 45 per cent in two hours. Urinalysis showed albumin 2 plus with many red blood cells. The diagnoses were:

1. Arteriosclerosis.
2. Arthritis of the spine.

Treatment consisted of forcing fluids, thorough elimination and sodium salicylate. Five days after admission the patient died suddenly.

The necropsy revealed a saccular aneurysm of the abdominal aorta just below the diaphragm, firmly adherent to the vertebral column. The aneurysm had ruptured, infiltrating the retroperitoneal tissues with blood, and then ruptured through the diaphragm into the right pleural cavity, which contained about a liter

of blood. The twelfth thoracic and first lumbar vertebra were eroded, accounting for the pain in the back and hips.

These two cases well present the difficulty of diagnosis commonly present.

Case 3. A white man, age 42, was admitted to the hospital on April 14, 1930. His chief complaint was of pain in the left part of his abdomen of varying intensity. The pain, which had been present for two months, was less following meals. There was also severe, boring, throbbing pain in the lumbar spine and left flank. The veins of the neck were full with slight pulsation, and there was slight generalized glandular enlargement. The lungs were hyperresonant. The area of cardiac dullness was moderately increased. A soft, prolonged, blowing systolic murmur was heard at the mitral and tricuspid areas. The aortic second sound was loud and snapping. The peripheral vessels were moderately sclerosed. The liver edge was felt 2 cm. below the right costal margin. The abdomen was rigid, with marked fulness in the left epigastrium, the left hypochondrium and flank. Over this there was a firm, pulsating very tender mass extending 3 cm. below the costal margin from the nipple line around into the lumbar region. The pulsation was expansile and the heart sounds were transmitted over the entire area. Palpation of the lower abdomen was unsatisfactory on account of tenderness. Pulsation and fulness were also noted in the left costovertebral triangle.

The examining physician's impression was "probably a ruptured aneurysm of the upper abdominal aorta, dissecting the retroperitoneal tissues to the left of the spine." The patient was given a liquid diet, mustard paste to the left hypochondrium and morphia for pain. He was dismissed improved eleven days after admission.

This case is typical of those in which recovery occurred, but the diagnosis is open to question. The patient without doubt had an abdominal aneurysm, but it is difficult to see the grounds for the diagnosis of rupture. The chances are that it was a dissecting aneurysm, but the rupture is problematic. The pain can be explained by the probable erosion of the vertebra.

Case 4. A colored man, age 46, was admitted on October 18, 1932, on account of severe pain in the thorax, and partial collapse. Thirty minutes earlier he had been talking with friends when he suddenly experienced a severe pain under the sternum that radiated to the spine at the level of the third and fourth thoracic vertebra. He became frightened and got up. The pain became worse and he broke out in a profuse sweat. Although there was a sensation of fulness under his sternum as if his chest would burst and he felt extremely weak, he was able to walk 30 feet to a drug store, whence he had been brought to the hospital in a car.

He vomited once after the onset of the pain, although he had not eaten for twelve hours.

He had had joint pains twenty-five years earlier, and subsequently contracted syphilis ten years later; he had also had gonorrhea twice. Palpitation had be-

gun three weeks before admission, and he had been suffering from night sweats and nocturnal cough.

The patient appeared to be in acute pain: he could not sit still or lie down on account of the pain. He was extremely restless and dyspneic. The lungs were normal throughout. The left border of cardiac dullness measured 15 cm. from the midsternal line, and retro-manubrial dullness was 10 cm. wide. No murmurs were heard, and the rhythm was regular, rate was 60. Blood pressure on admission was 150/100; eight hours later, 218/130. The white cell count was 9,600, with 90 per cent polymorphonuclears. Urinalysis was negative. The Wassermann test was 4 plus.

The impression at the time was

1. Rupture of the aorta.
2. Coronary occlusion (?)

Seven hours after admission the patient was somewhat quieter. In spite of $1\frac{1}{2}$ grains of morphia, he was still not free of pain. The pain was marked in the right leg. The right femoral pulse was not of as good volume as the left. The dorsalis pedis was palpable on the right side.

October 19. He felt better, but he was very cyanotic and respiration was labored. He died that morning.

Necropsy: The pericardial sac contained liquid blood and the heart was surrounded by a thick, red, soft, fresh blood clot, that was easily removed. In the first portion of the aorta there was a recent linear tear several centimeters in length, with a small opening into the pericardial sac. Distal to this the blood had smoothly stripped up the intima and media from the adventitia for about two-thirds of its circumference, mostly on the left, as far as the iliac bifurcation where the blood had forced its way back through the weakened wall into its regular channel. This dissection probably accounted for the pain.

The case was confused with coronary occlusion since it presented severe, intractable pain beneath the sternum, shock, and a mild leukocytosis.

Conclusions

1. Ruptured aneurysms of the aorta are rare.
2. The typical signs and symptoms of aneurysm are often absent.
3. Diagnosis is exceedingly difficult. Rupture is often confused with coronary disease, "acute abdomen" and pulmonary hemorrhage.
4. Syphilis plus arteriosclerosis are the most prominent etiologic factors.
5. The prognosis is uniformly grave.
6. Based upon the assumption of a prompt and correct diagnosis, there seems to be a possibility of life-saving treatment in certain cases.

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THE PATHOLOGY OF SUDDEN DEATH

A Study of 105 Cases

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This review deals with post-mortem examinations made by the staff of the department of pathology of the University of Georgia School of Medicine. Since this is a study of the records of the department from 1923 to 1934 I wish to acknowledge the contributions of the various members of the staff, and also wish to mention the assistance of Miss Georgia Brawner in collecting the cases and assembling the statistics. The investigation has been limited to those cases of sudden or unexpected death which were not traumatic or suicidal. Most of the individuals who died suddenly or unexpectedly were not attended by a physician, and many had collapsed in the street or while at work. Autopsies on these persons were performed at the instance of the coroner's physicians and we wish to acknowledge their contribution to this study. A few cases which were in extremis when seen by a physician and a few from the hospital in which the death was sudden and the cause unexplained, are included in this report. Such a study is interesting from a statistical standpoint and we hope that it will throw some light on the prognosis of similar conditions and on the prevention of such fatalities. In tabulating the causes of death no case is recorded under more than one heading; when multiple lesions were observed that condition which seemed the most likely immediate cause of death is the one used.

General Incidence

Only adults are included in this investigation; the youngest person is 17 years of age. The study embraces a period of eleven years from September, 1923, to September, 1934, and includes 105 cases. Twenty-nine of these deaths occurred in the first half of this period and seventy-six in the latter half. This indicates an increase in the number of sudden deaths which is difficult to explain.

This observation is in agreement with a similar statistical study by Bedford¹ who thinks that the increase is due to some change in the mode of life of the people, perhaps the increasing tendency of the middle-aged and those beyond middle age to continue to indulge in the more active exercises, pastimes and habits of their youth.

SEASONAL INCIDENCE

TABLE I.

	No.		No.		No.		No.
January	9	April	9	July	11	Oct.	8
Feb'y.	7	May	12	Aug.	3	Nov.	12
March	9	June	9	Sept.	11	Dec.	5
Total for 3 months	25		30		25		25

Most of the deaths occurred in May and November with July and September next in order, while the smallest number occurred in August. Table I. If the year is divided into four periods of three months each we find an equal number in the first, third and fourth quarters and a slight increase in the second quarter. It will be shown that cardiovascular lesions and acute respiratory infections, either alone or associated, are the predominant causes of sudden death. This may explain the seasonal variation because in May and November there is a wider fluctuation in the temperature from day to day.

Race

The racial incidence in this report cannot be considered a true index of sudden death in our locality because more inquests are requested by the Coroner upon members of the negro race than upon the white, but it is necessary to establish this incidence for the sake of comparison. There were seventy-six negroes, or 72 per cent; twenty-eight whites, or 27 per cent, and one Chinese, or 1 per cent.

Sex

Of the 105 cases, seventy-six (72 per cent) were males and twenty-nine (28 per cent) were females. The frequency of cardiovascular deaths and the fact that in a large number death occurred while the individual was at work explain the high incidence of the males.

Age

Only adults are included in this report

and it should be stated that in most cases the age was estimated. In Table II they are grouped according to decades, race and sex.

TABLE II.

Decades	2	3	4	5	6	7	8	Total
Male	1	6	14	26	15	12	2	76
Female	1	6	9	7	3	1	2	29
Negroes	1	10	18	24	12	9	2	76
*Whites	1	2	5	9	6	4	2	29
Total	2	12	23	33	18	13	4	

*1 Chinese included.

The greatest number of deaths occurs in the fifth decade. There is little difference in the age incidence according to race. But there is a difference in the age distribution as related to sex, because in the group of females the largest number occurs in the fourth decade and too, the number of cases in the third and fourth decades exceeds the number in the fifth and sixth.

Causes of Death

The causes of death are grouped as follows: cardio-vascular disease, seventy-five; infections, nine; status thymicus, five; ruptured tubal pregnancy, one; brain tumor, one; acute inflammatory pulmonary edema, twelve; unknown, two.

Cardio-vascular Disease

The seventy-five deaths attributed to cardio-vascular disease represent 71.5 per cent of all cases. Fifty-four (72 per cent) were negroes and twenty-one (28 per cent) white. In other words the proportion is the same as in the general incidence. Fifty-eight (77 per cent) were males and seventeen (23 per cent) were females thus showing a slight predominance of males. The cardio-vascular deaths were subdivided according to Table III.

TABLE III.

Cause	Total No. of Cases
Coronary Stenosis	22
Congestive Heart Failure	6
Adhesive Pericarditis	3
Cardiac Laceration	2
Acute Left Ventricular Failure	23
Rupture of Aneurysm	8
Intracranial Hemorrhage	6
Rupture of Aorta	5

Coronary Stenosis

In twenty-two instances there was evident coronary stenosis. There is a pronounced excess of whites and males over negroes and females. See Table IV.

Table IV

	Number	Per Cent	Percentage of All Cases For Comparison
Negroes	8	36	72
Whites	14	64	27
Males	20	91	72
Females	2	9	28

These twenty-two cases represent 21 per cent of all deaths which exceeds the figure of Berger² who found that 8 per cent of the natural deaths in the Coroner's service were due to coronary artery disease. In five of our cases the ostia alone were constricted from syphilitic aortitis, in one other instance of syphilitic aortitis the ostia as well as the lumens were narrowed, and in four there was an accompanying syphilitic valvular endocarditis. Syphilitic disease then may be the cause of 27 per cent of the cases of sudden death from coronary artery stenosis, which corresponds to the observation made by Briskmann³. In sixteen instances the stenosis of the lumen was due to atherosclerosis of the coronary arteries and in two of this group the ostia were also stenosed by an aortic atherosclerosis. In fourteen cases either cardiac hypertrophy or hypertensive arterial lesions were noted. The left artery was affected more commonly than the right. Only once was a thrombus found in the artery and only once was the myocardium recently infarcted. However, in five of the cases healed infarcts were noted. We therefore agree with Koch and Kong⁴ that soft atheroma is the most common cause of occlusion and may occur suddenly. In one interesting case of a negro male, aged 30, an embolus was found in the left coronary artery that was detached from a focus of suppurative aortitis. Other lesions in this entire group were—fibrosis of the myocardium in eight; mural thrombosis in one; pericardial adhesions in one; aneurysm of the as-

cending aorta in one. The average age was forty-nine, the youngest being thirty, the oldest seventy-three. In at least three cases there seemed to be a complicating respiratory infection because of active pulmonary congestion, pulmonary edema, a film from the lungs showing the presence of streptococci and congestion of the trachea and bronchi. One of these cases was the above mentioned suppurative aortitis with embolism.

We conclude that atheromatous degeneration of the coronary artery, usually due to hypertension, is the most common cause of acute cardiac failure from coronary stenosis. Syphilitic aortitis is the cause of 27 per cent of these deaths, and an acute respiratory infection may be a predisposing cause.

Congestive Heart Failure

The six cases in which there was evidence of chronic congestive cardiac failure were negroes, five males and one female. Four of these died from thrombosis of the pulmonary artery, and pulmonary infarction was present in three of these. Valvular endocarditis played a minor part as only once was a valvular lesion observed, which was a syphilitic aortic valvular endocarditis. Cardiac hypertrophy was found in all, two showed hypertensive arterial lesions, one a glomerulonephritis; one was a male sixty years of age with fibrous myocarditis; and one a female aged nineteen with an acute toxic nephritis, and who had recently given birth to a child which was evidenced by a post-partum uterus and lactating breasts. Fibrosis of the myocardium was noted in four of all the cases. The causes of the congestive heart failure then varied, and the only conclusion that can be drawn is that neglect of the predisposing causes played the major role.

Adhesive Pericarditis

In three cases the cause of the sudden heart failure was attributed to adhesive pericarditis; two were negroes, one was white, two males and one female. Cardiac hypertrophy was present in all three. In two it was associated with hypertensive arterial lesions and fibrosis of the myocardium, and one of these had an aneurysm of the

heart. In the other case there was present syphilitic aortitis, an aneurysm of the ascending aorta, and evidences of an acute respiratory infection characterized by acute edema of the lungs; a film from the lungs revealed streptococci. In one of the other cases of this series there was an acute pulmonary edema. The cause of the pericardial adhesions was not apparent but in one autopsy lesions were found in the myocardium suggestive of rheumatism. Valvular lesions were absent in all. When sudden death occurs from adhesive pericarditis, other conditions such as hypertension or respiratory infections are contributory.

Cardiac Laceration

In two cases, one negro male and one white male, the heart was lacerated. In one the laceration involved the right atrio-ventricular valve and in the other the right atrium was ruptured. In both cases hypertension was evident by cardiac enlargement and arterial changes. The case with laceration of the valve was a negro male age 45 with syphilitic aortitis. Because of the acute pulmonary edema it was thought to be also a case of acute left ventricular heart failure. The ruptured heart was in a white male age sixty, with stenosis of both coronary arteries and with fibrous myocarditis. We conclude then that in laceration of the heart, hypertension is the major etiological factor and may be caused by coronary artery stenosis.

Acute Left Ventricular Failure

Other than the above evident cardiac deaths, there is a group of cases in which the cause of death was due to acute pulmonary edema and in which hypertension was suspected by cardiac hypertrophy or arterial changes, or in the absence of these fibrosis of the myocardium was demonstrated. Twenty-three such cases are classified as acute left ventricular failure. That these deaths are not due to unrecognized coronary stenosis is shown by the difference in distribution according to sex and race when compared to those of coronary artery stenosis. Compare Table IV and V.

Table V

Race	No.	Per Cent	Percentage of all cases for comparison
Negro	20	87	72
White	3	13	27
Sex			
Male	14	61	72
Female	9	39	28

There is a reversal of the ratio of the races, and the percentage of females is larger than that of the general incidence. The average age is less than in the coronary group, forty-six compared to forty-nine. In seventeen the heart was hypertrophied, in eighteen hypertensive arterial changes were seen, and in fourteen cases both of these changes existed together, and in three of this group the vascular lesions were those characteristic of malignant hypertension. In both cases without hypertensive lesions or cardiac hypertrophy, fibrosis of the myocardium was noted, while five of the entire group exhibited some cardiac fibrosis. Other pathologic findings were encephalo-malacia in 3, syphilitic aortitis in 2, syphilitic aortic valvular endocarditis in one, syphilitic aortic aneurysms in the ascending and descending thoracic aorta in one, chronic glomerulo-nephritis in one, hydro-pericardium in one, and two of the nine females were lactating. Many of these cases should probably be grouped with those of inflammatory pulmonary edema, but because some lesion referable to the cardiovascular system was demonstrable they are included in this series. This was so strongly the opinion of the examiner that in eight of the twenty-three a stained film from the lungs revealed streptococci. Again we observe that hypertension is a predominant etiological factor in sudden death, and an acute respiratory disease may be a predisposing cause.

Ruptured Aneurysms

Eight deaths resulted from ruptured aneurysms, all negroes, five males and three females. The average age was forty-four. In five the aneurysm occurred in the ascending thoracic aorta and had ruptured into the pericardial sac, three of these were syphilitic. In two the aneurysm was in the descending thoracic aorta, rupturing into a bronchus

and into the pleural cavity respectively, and one of these was syphilitic. The other aneurysm involved the internal carotid artery as it entered the cranial cavity. In this case the body was decomposed so that critical study was possible in only seven of the group. In the seven autopsies, syphilitic aortitis was demonstrated in four, in four the heart was enlarged, in three hypertensive vascular lesions were noted, and in five there was either cardiac hypertrophy or hypertensive arterial changes present. In one of the seven cases there was seen atherosclerosis of the aorta without evidence of aortitis or hypertension. Pronounced atherosclerosis of the aorta was noted in four of the cases associated with aortitis in one. It is surprising to note that aortitis was observed in only four of the seven cases of aortic aneurysms. The percentage is lower than that of Coombs⁵ who found that 88.8 per cent of the aneurysms in the ascending, and 57.8 per cent of those in the descending aorta were due to syphilis. In our cases three of the five (60 per cent) aneurysms of the first part and one (50 per cent) of the two in the descending aorta were syphilitic. But if all cases of aneurysm in the entire series are considered, we find that six out of eight (75 per cent) of the ascending aorta and two out of three (67 per cent) of the descending aorta were syphilitic, figures that are more comparable to those of Coombs. Four of the seven cases had acute pulmonary edema and in two of these streptococci were found in films from the lungs. It would seem that aneurysms are prone to rupture early when they are due to atherosclerosis of the aorta or in which atherosclerosis is associated with aortitis, particularly when hypertension is present. It is possible that acute respiratory infection again acts as a predisposing factor.

Intracranial Hemorrhage

Other than the one case of ruptured aneurysm of the internal carotid artery there were six sudden deaths due to intracranial hemorrhage. Four of these were negroes, two were whites, five were males and one was a female. Four hemorrhages were in the bulb, one associated with a hemorrhage in the basal ganglia, and one with a hemorrhage

in the cerebellum. Twice the hemorrhage occurred in the basal ganglia, once in the cerebellum and one was a meningeal hemorrhage. Cardiac hypertrophy was present in all and three of the four cases critically studied exhibited hypertensive arterial lesions. In two there was some encephalomalacia and in one each portal cirrhosis, congenital polycystic kidneys, and fibrosis of the myocardium was noted. In four there was acute pulmonary edema, three in which streptococci were seen in films from the lungs. In the two cases without pulmonary edema encephalomalacia was present. It is interesting to note that in the cases of multiple hemorrhages and in the one with meningeal hemorrhage, acute pulmonary edema was observed. It is thought that the type of respiratory infection with an acute inflammatory pulmonary edema predisposes to hemorrhage elsewhere in the body as has been shown in the cases of ruptured aneurysms. Hypertension again assumes a leading etiological role.

Ruptured Aorta

Rupture of the aorta occurred in five negro males with an average age of forty. In all cases the rupture occurred in the ascending thoracic aorta into the pericardial sac, and in only one were the coats dissected to any noticeable extent. In four of the cases that were critically reviewed hypertensive vascular lesions were seen and in two of these the heart was hypertrophied. In two of the four cases carefully studied there was seen syphilitic aortitis, and in the other two pronounced arteriolosclerosis of the vasa vasorum was noted with atherosclerosis of the aorta. In one of the autopsies atherosclerosis and aortitis were associated. In one there was acute pulmonary edema. Thus hypertension seems to be the etiological factor in this manner of death accompanied by either aortitis or constriction of the vasa vasorum of the aorta.

It is interesting to note the insignificant part played by valvular endocarditis in all of the cardio-vascular deaths. The only valvular lesion observed was syphilitic valvular endocarditis which occurred six times distributed as follows: Four with coronary stenosis; one with acute left ventricular failure; and one with congestive cardiac failure.

Infections

The nine deaths that resulted from infections represent 8.6 per cent of the series. The racial incidence corresponds to the general racial incidence but the females predominate over the males. Three of these deaths were due to lobular pneumonia: (1) a fulminating influenzal type in a white female aged twenty-five; (2) an organizing broncho-pneumonia in a white male aged seventy with fibrosis of the myocardium; (3) an extensive suppurative broncho-pneumonia in a negro female aged forty-five, and because of a pronounced hypertrophy of the right ventricle, asthma was suggested as a factor at the autopsy and confirmed by testimony at the inquest. The two cases of lobar pneumonia occurred (1) in a debilitated negro male aged forty with an abscessed prostate, sickle shaped erythrocytes and well developed ascites and hydro-pericardium, and (2) in a negro female aged fifty in which the exudate in the lung and over the pleura was now organizing and was complicated with a sero-fibrinous pericarditis.

Tuberculosis was the cause of death three times, twice involving mainly the lungs, one white and one negro, and the other autopsy on a negro male aged sixty disclosed a tuberculous pericarditis and lepto-meningitis.

The ninth death attributed to an infection is an unusual one. A negro female aged twenty-four had an abscess of the liver secondary to chronic cholecystitis and cholangitis. The abscess was located so as to exert sufficient pressure upon the inferior vena cava to produce an ascites. The immediate cause of death was rupture of the abscess into the vena cava with multiple pulmonary emboli.

Miscellaneous Group

A negro female aged forty died from hemorrhage of a ruptured tubal pregnancy. One brain tumor was found, a cavernous angioma of the lepto-meninges between the frontal lobes of a white male thirty-eight years of age who died from a series of epileptiform convulsions because of the leakage of blood from the cavernoma.

Despite the tendency today to deny the existence of status thymicus we prefer to in-

clude this anatomical diagnosis in our series and five of the deaths are so classified. A committee in England reported that there was "no evidence that so-called status thymico-lymphaticus has any existence as a pathological entity"⁷ and recently de la Houssaye⁷ stated that "Diagnoses established wholly or mainly upon alleged abnormality of the weight of the thymus have no more value than affirmative evidences in cases of witch-craft. In cases of sudden death the old inquest verdict 'died by the visitation of God' is at least as scientific and more modest than status thymicus. 'Cause unknown' is preferable to either." But Waldbott⁸ thinks that the cause of death in these cases is due to anaphylaxis, because of the similarity of post-mortem findings in thirty-four cases of thymic death to a group of fifteen cases of known anaphylaxis. He states that death results from a primary anaphylactic edema of the lungs and an ensuing asphyxiation. However, an acute pulmonary edema was found in only two of our group of five thymic deaths. The ages varied from seventeen to forty-five, four were males, one was a female, three were negroes and one was white and one a Chinese. In three there was hypoplasia of the aorta, in four the spleen was enlarged and in three the lymph nodes were hyperplastic. Three of these are of especial interest. (1). A white boy aged eighteen died suddenly during an initiation into a lodge while an electric shock was being administered over the thorax. (2). A negro male aged thirty dropped dead immediately after a fight in which he sustained a fracture of the sternum with little damage to the underlying structures. In the thymuses of both of these cases small hemorrhages were seen. (3). Another negro male aged thirty-eight died on the operating table before the operation was begun.

Cause Unknown

In two of our autopsies no cause of death was found. One was a negro female thirty-five years of age who was very obese; the other was a negro female thirty years of age with a wet brain and who was known to be alcoholic. It is possible that she died from acute alcoholism.

Acute Inflammatory Pulmonary Edema

The next group of twelve cases may well fall into the group of unknown etiology because in truth we are unable to prove the underlying cause. In our experience such cases are fairly common and our conclusions are still hypothetical. These are cases of acute pulmonary edema in which the individual apparently drowns in his own secretions and at autopsy no cause for the edema is found in the heart, vessels, or kidneys, but congestion of the mucosa of the trachea and bronchi is uniformly found; many times the spleen is enlarged; frequently the pulmonary edema is accompanied by slight serous effusions elsewhere so that there is an excess of pleural, peritoneal and pericardial fluid and the subcutaneous tissues are more moist than normal. The blood remains fluid probably because of the asphyxial death. From this group of cases there has been eliminated all of those in which there was found any pathologic change that could in any way explain such a condition. In two of these cases a statement was made that the individuals were alcoholic.

Most of these autopsies were carefully studied so that in seven of the twelve the brain was examined. To see whether there was any relationship between these cases and those of acute left ventricular heart failure in the hypertensive group, we have compared the age, race and sex distribution and we find that the race and sex distribution is similar to that in acute left sided cardiac failure, but the age differs considerably. While the average age of those with an acute left sided cardiac failure is forty-six, we find that in the uncomplicated acute pulmonary edema the average age is thirty-one and the highest incidence occurs in the third decade rather than in the fifth decade as was observed in the hypertensive cases. The similar ratio that exists in race and sex is probably explained on the basis that many of the cases so classified as acute cardiac failure really belong in this group. Due to the similarity of the findings in these cases to those found in fatal fulminating influenza which were seen in the pandemic of 1918, we have classified these cases as acute inflammatory pulmonary edema of the lungs which is further substan-

tiated by the fact that in so many of the cases we find organisms with morphological characteristics of the streptococcus in large numbers in the films made from the lungs. A report⁹ of a few similar cases was made by the essayist in 1926 before the meeting of the Medical Association of Georgia.

It has been mentioned above that many of the deaths attributed to acute cardiac failure could well result from this type of infection. In fact, in reviewing the entire set of records we find not only similar cases in this group, but also in the group of evident coronary stenosis and in the cases of intracranial hemorrhage. Even some of the cases of ruptured aneurysm and ruptured aorta seem to fit into this series. In these instances when films are made they frequently show the presence of streptococci. Under such circumstances there is probably an endothelial injury, because not only is edema of the lungs observed but hemorrhage occurs into the alveoli. So that we may infer that if a capillary hemorrhage occurs elsewhere in the body it may lead to further impairment of the circulation in weakened areas which would thus explain the occurrence of the intracranial hemorrhage and the rupture of the aorta.

In general we may conclude that the outstanding etiological factors of sudden death are hypertension and respiratory infections, either alone or in combination.

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HAY FEVER

Begin now to immunize your patients against the late summer and fall form, which comes in Georgia about August 15. Combined ragweed pollen solution subcutaneously every other day for a month or six weeks before the pollinating season starts is helpful.

A BRIEF DISCUSSION OF THE BILIARY PROBLEM*

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Augusta

I know of no more outstanding contributions to medical knowledge during the last several years than those which have grown out from studies upon the liver and gallbladder and the ability to apply much of this to the clinical problem of biliary disease. Prior to a few years ago, gallbladder surgery carried with it a mortality of from 6 to 10 per cent and this has been reduced to 0.5 per cent or less by the application of these contributions.

Even anatomically, our older opinions as to the right and left halves of the liver have had to be revised since it has been shown that the right and left branches of the portal vein, the bile ducts and the hepatic arteries, each remain separate and distinct with no anastomosing of their respective branches, which may explain why certain lesions are found only in the one or the other half. Grossly, the line of division is from the gallbladder bed to the point where the hepatic vein empties into the inferior vena cava.

The observation of stream lines in the portal vein is most interesting. The blood from the spleen and stomach flows to the left lobe of the liver; that from the upper duodenum, jejunum and head of the pancreas flows to the right lobe; and that from the colon is distributed to both lobes, more to the left. There seems to be practically no intermingling of the blood in these streams.

It has been shown that the liver alone maintains the level of blood sugar, even in diabetes, from liver glycogen and that muscle glycogen can not be utilized for this purpose (the latter is used locally and converted into lactic acid). The formation of urea seems to be entirely a function of the liver. The liver removes foreign particles from the blood stream, many toxins and probably some of the heavy metals are thus eliminated. The destruction of uric acid depends entirely

upon the liver. The liver's capability of distension, as has been repeatedly observed in obstructive jaundice, is most remarkable and its ability to regenerate is nothing short of astounding; for instance, in the rat 70 per cent removal of the liver is followed by complete regeneration in about four weeks. The administration of calcium greatly facilitates this regeneration and therefore a factor of much aid in many of our clinical problems. It is of interest to note that bile pigment is not manufactured by the liver but by the bone marrow. The most likely explanation for the improvement in pernicious anemia cases under liver extract feeding, is that it stimulates and hastens the maturation of red blood cells whether in the capacity of a vitamin, direct influence upon the cell structure or otherwise. Thus we see that the liver has yielded much knowledge as to its own self and also its relation to other organs. We have reviewed these for you because we believe they have a very definite clinical bearing, as the gallbladder is a part of the biliary tract and a thing affecting a part must necessarily affect the whole to a greater or less degree. We believe that gallbladder disease is an end result rather than a primary disease, certainly in the majority of cases and therefore the whole tract in all its relationships must be considered in the intelligent handling of clinical problems.

Gallbladder disease is one of the most frequent diseases of the abdominal organs in adults excepting appendicitis. Statistics of post mortem examinations upon adults show it as high as 50 per cent. Yet, it is almost unknown among negroes, a fact for which the explanation is lacking. Many of the factors which we are prone to believe to enter into the development of biliary disease are frequently found in the negro race. Our records at the University Hospital do not show a single proven case of cholecystitis. There have been several in which a provisional diagnosis was made but neither of these came to operation for proof. McGuire reporting on 1000 cases of cholecystitis from the Memorial Hospital in Richmond several years ago, noted that not one was in the negro race. We can offer no thought as to an explanation.

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The presence of stones in the gallbladder complicate the picture, add somewhat to its gravity and contribute much to the discomfort of the patient. The main factor however, is the infection in the gallbladder and biliary tract in general; and it is now believed that all gallstones find their origin in infection, that there is no such thing as the formerly classified non-inflammatory gallstones formed supposedly in metabolic diseases—diabetes, obesity and especially in pregnancy. True we may have a marked increase in blood cholesterol in such cases, but infection is necessary for the development of gallstones.

There are several routes through which the infection may reach the gallbladder, by (1) the portal vessels through the bile stream directly or out into the lymphatics of the liver thence into the lymphatic of the walls of the gallbladder; (2) by the hepatic artery from some focus of infection elsewhere in the body such as teeth and tonsils; (3) by a retrograde lymphatic infection from the appendix, colon, or elsewhere; (4) by extension from neighboring inflamed organs such as duodenal ulcer or chronic colitis; (5) by an ascending infection up the common and cystic ducts. A thought worthy of recall here is that pancreatic juice may enter through these ducts, set up an active irritation and thus pave the way for infection. The anatomical possibility for such an occurrence is very much greater than formerly believed. Because of so much nausea and vomiting with reverse peristalsis in pregnancy; this may be at least a partial explanation of the association of pregnancy and gallbladder disease and not just purely a metabolic disturbance, to which reference has been made. No one of the above routes will offer the explanation in all cases but each contributes its number, no doubt, in any given series of cases. It seems to me more logical to suspect the first mentioned (through the portal vessels) as being the most frequent since so many patients with cholecystitis give a previous history of constipation, intestinal stasis or recurring attacks of "biliousness." In this part of the country, malaria is so frequently a factor in the causation of these three symptoms that, indirectly, it may be a decided

contributing factor in the development of cholecystitis.

The recovery of organisms from the biliary tract by the older methods of cultures from the bile was notoriously unsuccessful due to the inhibiting action of bile upon the growth of organisms. Cultures made, however, from macerated lymph glands, removed from beside the ducts, especially the cystic gland, from pieces of liver removed at the time of operation upon the gallbladder and from the walls of the gallbladder have yielded such positive results as to have added a new impetus to this field of investigation, reports of from 25 to 90 per cent positive and usually the streptococcus was the organism identified. I can do no better here than quote Judd, Nickel and Wellbrook, who, in 1932, said "It is certain that this condition of hepatitis or cholangitis occurs routinely in the presence of cholecystitis. It is also true that this condition of the liver exists when recognizable change can not be made out in the gallbladder or bile ducts. Probably, under these conditions hepatitis is secondary to infection in some part of the portal system.

It is a well known fact that the liver has a marked detoxifying function and that these changes in the hepatic tissue at times may represent the reaction that has taken place as a result of neutralizing either bacterial or chemical toxins that have been brought to the liver by the portal circulation. We feel that hepatitis may occur as a primary condition and that the symptoms which result from it are similar to those of cholecystitis."

Because of these associations of the gallbladder and biliary tract as a whole, and in particular the liver, several functional liver tests have been devised. It is equally as important to know this function as to know that of the kidneys, heart or other vital organs. Graham suggested the intravenous administration of phenoltetraiodophthalein, about 2.5 Gm. for an adult which not only dyes the gallbladder for cholecystograms, but also stains (purple) the serum after it has been slightly alkalinized. If more than 50 per cent of the dye is retained after half an hour, vigorous preparatory treatment is indicated until the retention is reduced to 30

or 40 per cent. In some of the German clinics gelatine is used, especially in the study of the patients protein metabolism—50 grams given and the urine examined after four and eight hours for amino acids. 200 mg. or more may be found after four hours in patients with diseased livers. The gallbladder visualization alone is familiar to you but often this yields inconclusive results nor does it give us but a poor conception of the liver function. The various tests for blood bile are only of use in cases of jaundice, and here their value is but very little more than we have learned from clinical observation. We know the danger of operations upon jaundice patients and that it is increased in proportion to the intensity of the jaundice.

Certainly I need not recall to you the symptoms of gallbladder disease and I know of no new symptoms. "Fair, fat, forty, belches gas—gallstones," is familiar to each of you. Fullness after eating, especially of sweets or fats growing into such an intolerance that the patient avoids these foods, after a time, pain or tenderness to a greater or lesser degree along the right costal margin or maybe only directly over the gallbladder, is added—chills and fever occur frequently, when the infection has become fairly acute. Many cases start out with only that syndrome which we recognize under the name "bilious attacks," succeeding attacks become more and more severe and associated with more definite identification as the localization over the gallbladder becomes more pronounced. Nausea and vomiting usually are well marked at this stage, the vomitus consisting of much "bilious" material—old dark green or almost black bile. Where stones are present, colicky pains are frequently present and are readily recognizable as such. Jaundice of course does not appear until obstruction of the common duct has taken place. Let me admonish here, that jaundice does not always mean obstruction of the common duct but may be present in cases of hepatitis, previously referred to, as well as in certain medical problems such as portal cirrhosis, blood dyscrasias and other affections. An acute cholecystitis may occur with all the intensity of an acute appendicitis; the pain of course is higher over the gallbladder

region, may be most severe; nausea and vomiting, the later only gastric contents and later frothy, seldom bile, because of the intense spasm in the biliary tract. After partial relaxation is secured by the administration of opiates, some bile may appear in the vomitus but usually not nearly so much as in the acute exacerbations of a chronic cholecystitis mentioned above. High fever and rapid pulse are early found and a marked leukocytosis with a correspondingly higher poly count. Such an acute cholecystitis may develop in association with certain acute infectious diseases, notably typhoid fever, either during the course of or within a very few weeks thereafter. Rarely, it occurs unheralded like the proverbial bolt out of a clear sky. It is important to recognize such an attack because it requires urgent attention, just as an acute suppurative appendicitis, since the gallbladder may rapidly become gangrenous and rupture. I feel that there is quite a difference between a primary attack of this acute violent cholecystitis and the acute exacerbation of a chronic cholecystitis and that the treatment is different. The former being an acute primary disease, maybe phlegmonous in type, the patient profoundly ill, urgent measures, emergency operative procedures are indicated before perforation or rupture occurs. In such cases we do not have associated a damaged biliary tract or liver from old infection. The history of no previous attacks of a milder nature, of no chronic indigestion or dyspepsia, is most important in the differentiation. In the latter the attack is much less violent, the patient does not appear nearly so ill, is not so prostrate even though the pain of gallstone colic may be most severe, the fever is not so high nor is the leukocytosis—these cases are not candidates for emergency surgery, but are the ones in which we find damaged livers, hearts and kidneys and require proper evaluation and many of them careful upbuilding measures to convert them into safe risks for surgical interference.

Much discussion has taken place and much has been written recently advocating emergency surgery in acute cholecystitis; somewhat of a symposium was presented at the meeting of the American Surgical Associa-

tion, but it seems to me that in none of these discussions has a careful definition of "acute cholecystitis" been made or its proper differentiation from recurring acute exacerbations of a chronic cholecystitis. If these latter are included, then I am emphatically against emergency surgery, because it will take us back to the old high mortality associated with gallbladder operations before we were taught how to properly evaluate the patient, to improve his general or specific state and thus reduce the mortality from six to ten per cent to less than one half of one per cent.

Because of old chronic infection, chronic indigestion, with consequent inability to properly assimilate the food, repeated insults heaped upon insults, these patients are in a state of chronic invalidism to a greater or less degree and often out of all proportion to their gross appearances or findings upon a casual routine physical examination. The laboratory will afford us a much clearer insight; often the blood sugar is low, frequently the blood chlorides also, whereas the non-protein nitrogen may be high and also the uric acid. Functional liver tests in many will show that the liver is decidedly below par. Obviously a catastrophe is invited by ill-timed surgery in such cases. Many will fall into that group about which much has been written lately under the designation "liver deaths." By the application of the advances briefly reviewed in the beginning of this discussion, these deaths may be avoided and the patients restored to health and happiness.

Since cholecystitis and cholangitis mean infection of these structures, it is possible for an infected gallbladder to be a focus of infection for disease manifestations elsewhere in the body, such as arthritis, migraine headaches, and hypertension: I have had three cases with known diseased gallbladders, but fairly quiescent as to acute exacerbations who were driven to operations because of rapidly failing vision, and each had prompt improvement of the eyes after cholecystectomy. Competent ophthalmologists today promptly appreciate the influence of focal infection upon the eyes. The gallbladder should be placed within the first three of foci of infection within the abdomen. In a search for the focus of infection, let us not forget the third

"T" while thinking of the other two — "tonsils, teeth, tummy" as designated by Royster.

Cancer of the gallbladder is by no means a rare finding, but is awaiting a goodly number of those who are carrying a chronic cholecystitis and procrastinating about operative interference. Just as cancer elsewhere, it is distressing to open and find that we are too late, when "yesterday" (whatever may be its exact date) we could have avoided it.

A few words about silent gallstones, by which I mean those without symptoms—not infrequently encountered, usually accidentally discovered by the x-ray, most often in those of well advanced years; careful questioning will fail to reveal any real symptoms attributable to them. Such stones had best be left alone in probably a very large majority. It is well to remember the old admonition in bad risk cases and apply it here—that a living patient with gallstones is preferable to a dead one without. True, they have had infection at some time in the past, maybe years before, but through good fortune, it has long since become quiescent, if not completely disappeared, such that an honest evaluation will fail to indicate any real symptoms; therefore, they do not require removal. I have several such cases under my observation and can find no excuse for advising operation. After all, the real question to be answered in the advice for any operation is how much better will the patient be after this operation? If there is no evidence of symptoms referable to such gallstones, then obviously the patient can not be bettered by operation.

Cholecystitis is not a medical problem, except to get the patient in the best possible condition for operation; it is a surgical problem and demands operative interference. This, in spite of what I just said, or intimated, that some few, through the grace of the Lord, will apparently become in time quiescent or inactive. By far the great majority continue to suffer more or less constantly and with recurring acute exacerbations. Weighed against cancer, to consider only one feature, a larger number will develop cancer than will become quiescent. The risk of perforation is not negligible, adhesions and secondary involvement

of neighboring structures occur, the liver and other organs become damaged, the general health is broken down—all these occur while the patient is being carried along under medical treatment, whether prescribed by a physician or himself.

The surgical technic is solely the concern of the surgeon, after a careful evaluation of the patient and all is done to insure his being in the best condition possible for operation: the actual operative maneuver is then a matter of surgical judgment in the individual case. The ideal procedure is the removal of the gallbladder in the vast majority. The bad risk case certainly most often can not stand this, but demands the least manipulation in the shortest possible time, and therefore quick drainage and get out, even occasionally not permitting sufficient time or effort to remove all the stones present. Later, after the patient has improved sufficiently, one may go back and complete the operation. If a large drainage tube is used, stones may drain out, the infection be overcome by prolonged drainage; such a case may be cured and require no further efforts. Certain densely adherent gallbladders may permit only partial removal, in which case we can chemically destroy the remaining portion. These, however, are problems confronting the surgeon at the time of operation and must be handled by him.

Finally, I would leave you with this thought: That the operation is only the turning point in the patient's career—he has only just begun to get well. Only too often this fact is overlooked, the patient treated as if only a matter similar to appendectomy for acute appendicitis. Operations on the gallbladder are usually only after months or years of symptoms and suffering, and therefore it can not be a case of "Presto-change" with only the removal of the gallbladder. They need to be carefully nurtured back to health, remove the factors entering into the causation or development of the disease—errors of diet, or hygiene, foci of infection, whether in the teeth, colon or elsewhere. Needless to say, of course, unless contra-indicated by a bad risk case, an appendectomy should be done when the abdomen is opened for the gallbladder operation as it is done in

lower abdominal and pelvic surgery. Such will remove this focus of infection. In particular, must the liver be improved and rid of infection—the coincident hepatitis to which I referred by quotation of Judd et al. When these measures are carried out and the patient is really restored to health, then no longer will we have it thrown at us that the operation was a success, but the patient continued to suffer more or less the same.

THE LOCAL TREATMENT OF VASOMOTOR RHINITIS*

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Vasomotor rhinitis is a puzzling disease. In the majority of instances it is difficult to determine the exact cause; and as in all diseases with obscure etiology many different methods of treatment have been advanced. It is conceded to be the end result of disturbance of the vasomotor nerve supply. Treatment has been advocated along three lines: (1) Treatment of the underlying cause of disturbance—allergic and drug therapy; (2) treatment of the nerve supply—sphenopalatine ganglion therapy; (3) mechanical management of the engorged tissue. Various drugs have been advocated. Attempts, not conclusive, have been made to incriminate endocrine glands; and various glandular extracts have been tried without spectacular results. Calcium, either alone or in combination with glandular extracts has been advised. Iodine, in such combination that after injection free iodine is liberated, has quite recently been used. Allergic therapy in many cases is successful and others failure. Nerve therapy has been advocated by the followers of the late Greenfield Sluder. This consists of applications to or alcoholic injections into the sphenopalatine ganglion. All these methods of management are sometimes successful and merit considerable more attention than the scope of this paper permits. I will limit the discussion to the local treatment at the command of the rhinologist.

Persons with vasomotor rhinitis may be

*Read before the Fulton County Medical Society, Atlanta, March 7, 1935.

roughly divided into three groups. First, there is a group where from the history one is fairly certain the allergic factor may be easily brought to light; and where there is considerable hope to obtain relief from allergic management. This group belongs to the allergist; and I feel that here local treatment is contraindicated. Secondly, there is a group where the history would not lead one to expect any fundamental, underlying allergic make-up; or where one would not expect good results from allergic management alone. Here usually the suffering is not so intense; and is marked primarily by nasal stoppage, rather than by sneezing or water-discharge. Sometimes, without any change in the environment, the onset is very acute; and one has the feeling that with simple local treatment the symptoms will gradually abate. In this group study will frequently fail to reveal the allergin; or else the offending substance will be so wide-spread that its avoidance would be difficult. As an example, a patient of mine was found to be sensitive to silk. He was a married man with growing daughters; and to avoid contact with silk almost impossible. In this group it seems to me much wiser to give the simple treatment advocated in this paper a try before subjecting the patient to an extensive allergic study which is quite expensive; and, with apologies to the allergists, the results of which are frequently unsatisfactory.

The third group consists of those cases where the disease is fulminant in character; and careful allergic study fails to reveal any offending substance, or else allergic management gets no results. Here one is forced to rely solely upon local measures. Of course conservative treatment, diathermy, or cautery, should be tried first; but unfortunately, in this group these often fail completely. These patients are so miserable that treatment, even of the most radical kind, is justifiable.

In my own experience any treatment short of operative work is a complete waste of time. As far as I know, no drug, either applied by the physician or by the patient, offers other than negligible relief. The only effective local treatment is some mechanical reduction of the obstructing nasal tissue,

usually the inferior turbinate, occasionally polyps. This can be accomplished in three ways: (1) Surgical diathermy using the coagulating current; (2) electric cautery; (3) surgery. These are arranged in the order of their radicalness; and in the order of preference; since the aim of all local treatment is to secure a lasting reduction of tissue with the destruction of the least possible amount of epithelium.

Where it is applicable, and it is applicable in the majority of instances, I feel that diathermy is the treatment of choice. In the first place there is no destruction of epithelium. The scar is entirely submucous; and in contracting pulls the mucous membrane in with it, where cautery always destroys considerable mucous membrane. Then, too, there is definitely less reaction and discomfort following a diathermy treatment than following cauterization or surgery. This is a distinct advantage. If desired both sides can be treated at the same sitting. Diathermy is used in two ways: (1) Bipolar where two parallel needles are introduced into the tissue. I prefer this method. The other method consists of using a large inactive electrode applied to some distant region of the body, and is single active needle electrode thrust into the turbinate. Each machine has its own setting, but 300-500 milliamperes at the sight of application is required. The correct setting can be determined in advance by using the instrument on a piece of meat. In actual work a slightly higher setting than this will be required. With the machine correctly set the needles are introduced to a depth of 1-2 inch; and with a foot switch the current is turned on and allowed to flow from three to five seconds, or until a white area appears at the site of introduction of needles. A local anesthetic is used; preferably one which is not a vaso-constrictor. Two per cent nupercain or metycaine is satisfactory. The reaction is usually negligible; and some relief is obtained immediately, the maximum amount of benefit being obtained in about six weeks.

The third group of patients under discussion—those who have failed to respond to conservative therapy, and where careful allergic management has failed—are so miserable that I believe that any form of treat-

ment offering relief is justifiable. It is recognized of course that all local treatment is simply a question of mechanics—i. e., reduction of obstructing nasal tissue. Removal of turbinates or other obstructions can be very easily and painlessly done. The only reason one hesitates is fear of producing an atrophic rhinitis; and the danger here is very real. However, I am thoroughly convinced that the suffering and discomfort of these intractable patients is so great that they would be much better off even though an atrophic rhinitis should develop. Certainly the few that I have had, and explained fully the danger have preferred to take their chances rather than to continue as they are. Fortunately, thus far, none have developed a severe atrophy. I am not trying to minimize the seriousness of atrophic rhinitis. I think the decision to remove the inferior turbinates or large portions of them should be reached only after the most exhaustive study; when all other methods have failed; and the final decision should rest with the patient. However, in a certain small number of very severe cases I believe the procedure is justifiable, and should be carried out.

I wish to report briefly a few characteristic cases.

Case 1. Mrs. B., married, 35 years old, was seen first in September, 1931. She had a history of very frequent head colds with almost constant difficulty in breathing through the nose. This was intermittent and worse at night. First one side and then the other would become stopped. The right side was probably worse. She had had a maxillary sinus operation several months prior to the time I saw her. This had not helped a great deal. On examination there was some deviation of the septum to the left with a small spur. Both inferior turbinates were quite engorged, bluish red in color, boggy, and shrunk well after application of adrenalin. She was treated with the ephedrine nose drops, and cold vaccine. This definitely reduced the frequency and intensity of the head colds; but had very little effect on the obstruction to breathing. In April, 1932, both inferior turbinates were treated with diathermy and the septal spur removed. This was done in two stages. Since that time she has been very comfortable, having very little trouble in breathing; and no more than the usual number of head colds.

Case 2. Mrs. S., forty years old, married, was first seen in February, 1932. She had a history of mild, intermittent nasal obstruction of several years standing. This had become suddenly and markedly worse within the past few months. On examination the septum was fairly straight. Both inferior turbinates were quite

swollen, bluish, and boggy. There was a tremendous mulberry hypertrophy of the posterior tips of both inferior turbinates. Considerable mucous in the nose; but the nasoscopic examination showed this to be coming from nasal membrane rather than any specific sinus. Transillumination was perfectly clear. I was rather doubtful if results could be obtained without the removal of posterior tips of the turbinate; but determined to attempt diathermy alone. This was done on both sides at two different sittings. Some relief was immediate; but the maximum benefit was reached in about a month. At this time she was very comfortable; having only occasional stoppage of breathing which was controlled with ephedrine. The hypertrophy of the posterior tips had subsided considerably. During the past three years she has remained very comfortable, requiring only an occasional treatment for head colds.

Case 3. This is a case representing the third or intractable group. H. S., 19 year old college girl, was seen first in May, 1932. She had almost constant nasal stoppage much worse at night. This had been present for several years. At night she had to breathe almost entirely through her mouth. Various injections and local applications had been tried. None of them had given any noticeable degree of relief. Examination disclosed the usual findings of the severe vasomotor rhinitis without any evidence of sinus involvement. Extensive diathermy treatment was used on each inferior turbinate; and a thorough general diagnostic study was advised. No specific allergin was disclosed; but there was found some evidence of an endocrine disturbance. General therapy was directed along this line. She was much improved for several months, and then the symptoms returned as severe as ever. She was extremely miserable, losing much sleep, having difficulty in keeping up with her work, and getting into bad shape physically and mentally. It was evident that permanent relief was imperative. After thoroughly discussing the situation with all concerned it was decided to resect as much of each inferior turbinate as seemed necessary. Therefore, in two stages, during September and October, 1933, about one-half to two-thirds of each inferior turbinate was removed. Since that time she has had no trouble. She breathes freely through her nose at all times; and leads a normal life, swimming and diving as much as she pleases. There is some drying and slight tendency to crust formation in each nares. However, this is easily controlled by mineral oil nose drops. As yet there is no evidence of a serious atrophy developing.

TYPHOID FEVER

Antityphoid vaccination is practiced in all parts of the world. The great success of this procedure in the United States Army has been duplicated in the armies of other nations. During the World the U. S. Army had 1,529 admissions for typhoid fever, with but 227 deaths. If the World War rates had been equivalent to the Spanish-American War rates, more than 620,000 cases and 65,000 deaths would have occurred. Thanks for medical progress.

THE JOURNAL

OF THE

MEDICAL ASSOCIATION OF GEORGIA

Devoted to Welfare of the Medical Association of Georgia

478 Peachtree Street, N.E., Atlanta, Ga.

JULY, 1935

THE PHYSICIAN'S OBLIGATION

From the earliest days of medicine through the hundreds of years of toil, observation, experimentation and practice, physicians as a class have been duly mindful of their obligation to the public in assuming the responsibility for the prevention and cure of disease. Within the past twenty-five years spectacular discoveries have been made in the prevention of sickness and the cure of disease which are attributable in a great measure to the unselfish and altruistic devotion of a large group of the medical profession—representing organized medicine.

Progress in the advancement of medical knowledge is in keeping with better medical organization; witness for example the changes which have occurred in medical education during the past thirty years. No longer can one who feels the urge begin practicing medicine after a few years of hit or miss instruction. It is now necessary that certain fundamental educational requirements be attained before a prospective student can begin the study of medicine. Four years must be spent in the study of medicine and an additional year, at least, is most desirable as a hospital intern. These changes for the good of the profession, in furnishing better medical care to the public, have been brought about through the activities of organized medicine. Hundreds of other examples can easily be furnished stressing this point, so that today when a young man enters the practice of medicine, he at once profits by the vast accumulation of facts brought to him from the work of those who have gone before. Should this physician enter the activities of his profession without being willing to do his part for the further advancement of the science and art of medicine? This question has been answered by the great ma-

jority of doctors in their support of the efforts of organized medicine to further advance the profession of which they are an active part. Most of them feel this obligation very keenly and willingly give of their time and skill to accomplish this result.

What then are some of the duties which every qualified physician owes to his profession? First, I would say that he should join his county medical society which carries with it membership in his state medical association. Second, he should attend the regular meetings of his medical organizations and should be active in promoting the advancement of medical knowledge by presenting papers, reporting unusual cases, exhibiting interesting pathological specimens and participating in worthwhile discussion of medical matters. Third, he should be active in lay organizations interested in public health and should participate in formulating, guiding and directing these groups with correct and trustworthy medical facts. Fourth, he should actively support the principles for which organized medicine stands and attempt to see that all qualified physicians are members of their local medical societies. Fifth, he should read his state medical journal and become familiar with everything his association is attempting to do and in addition he should read at least one weekly and one monthly medical journal. Sixth, he should plan to take post-graduate medical instruction at least for a short period every one or two years.

Having briefly outlined a few of our obligations as physicians, won't you help the officers of your state association by doing your part in promoting the growth and the upbuilding of the Medical Association of Georgia?

J. E. PAULLIN, M.D., *President.*

The JOURNAL would like to record the scientific work of Georgia doctors. It earnestly requests, therefore, that each physician in the State who publishes a contribution in some other medical periodical submit an abstract of the article for these columns.

The American Medical Association will hold its eighty-seventh annual session at Kansas City in 1936.



BENJAMIN H. MINCHEW, M.D., Waycross
President-Elect, 1935-36

DR. BENJAMIN HARVEY MINCHEW PRESIDENT-ELECT

Dr. Benjamin Harvey Minchew, President-Elect of the Medical Association of Georgia, was born in 1882, on a farm at Denton, Jeff Davis County, Georgia. His parents were Abram Samuel and Mary Ellen Denton Minchew.

President-Elect Minchew, one of our most distinguished physicians, has had a varied and interesting career, giving much to organized medicine and to humanity. The early years of his life were spent attending the rural schools of South Georgia. At the age of sixteen he attended the South Georgia Normal School at Douglas, Ga. After finishing his preliminary education he worked in a department store in Florida as a bookkeeper. Believing medicine to be his true calling he resigned his position to enter the Atlanta College of Physicians and Surgeons from which he was graduated in 1909. During his senior year he served as junior house

surgeon at the Tabernacle Infirmary in Atlanta. After graduating he became resident surgeon to Elkin-Goldsmith Sanatorium at 29 Luckie Street, Atlanta, and served two years. After leaving there he took post-graduate study at the New York Eye and Ear Infirmary and located in Waycross, Ga., in 1912 to begin practice. He has spent a great deal of time doing post-graduate work at Chicago and the Mayo Clinic. In 1922 he attended the session of the International Congress of Otology in Paris and visited the clinics of Vienna, Berlin and London.

During the World War he served overseas as First Lieutenant in charge of the eye surgery of an evacuation hospital at Vichy, France. After two years of service he was honorably discharged in 1919.

He returned to Waycross to resume practice. In 1922 he was married to Juanita Bennett, daughter of Col. John W. and Gertrude Price Bennett of Waycross. Dr. and Mrs. Minchew have two children, Juanita, eight, and Benjamin Harvey, Jr., three.

Dr. Minchew has been in close touch with medical activities throughout his medical career and has been the recipient of many honors. He has served as President of the Ware County Medical Society and the Eleventh District Medical Society. He has served on the staff of the Atlantic Coast Line Railroad Hospital and the King's Daughters Hospital for twenty years and served as first president of the staff of the new Ware County Hospital which was built three years ago. At the annual meeting of the Atlantic Coast Line Surgeons Association in Jacksonville, Florida, March 14, he was elected president. It is composed of 250 surgeons of the Atlantic Coast Line Railroad Company through Virginia, North and South Carolina, Georgia, Florida and Alabama.

He is a Fellow of the American College of Surgeons, the American Medical Association and has been a member of the Medical Association of Georgia for twenty-five years. He has served on many committees, among them Chairman of the Advisory Committee to the Woman's Auxiliary of the Medical Association of Georgia for six years.

Although his profession keeps him busy

he has found time to serve his town and community in other capacities, having been President of the Waycross Chamber of Commerce and President of the Okefenokee Golf Club. In 1931 he was awarded the Baynard Knight Loving Cup through the Waycross Kiwanis Club for the citizen rendering the most outstanding service to the community. This was in recognition of service rendered to the underprivileged children of the community.

In electing Dr. Minchew to this distinguished office, the profession has made a wise choice. He is possessed with keen insight and breadth of vision. He works diligently for those things which will bring the most good to the most people. He has the power to generalize and through this and his other endowments we predict that he will make his term of office one of great accomplishments. The honor of the office carries a great responsibility but we feel sure that with the necessary cooperation the members of the medical profession of Georgia will have a capable leader.

MALPRACTICE SUITS

Data on 35,000 suits, furnished by various physicians and liability companies, was analyzed by Drs. H. G. Stetson and J. E. Moran of Greenfield, Mass., and their findings published in the New England Journal of Medicine. The causes of these suits, as determined by their analysis, were, in the order of importance:

1. Inopportune remarks by subsequent attending physicians.
2. Personal enmity and jealousy between members of the profession.
3. Counter suits interposed as a defense against the suit brought by a doctor for the purpose of collecting his fee.
4. Failure to use the x-ray in the diagnosis and reduction of fractures.
5. Outside causes, such as newspaper articles.
6. Negligence of the nurse employed by the physician.
7. Alcoholism.
8. Failure to use a method of treatment which is used by the majority or a respectable minority.

Sixty per cent of the 35,000 suits resulted

from inopportune remarks of brother physicians, or to personal grudges; therefore, all of us should use discretion when making remarks concerning the handling of a case. A good question to ask yourself is: Am I fully informed as to all circumstances connected with this case; a good thought is the commandment: "Neither shalt thou bear false witness against thy neighbor."

Since 1920 the Medical Association of Georgia has employed general counsel to aid its members in the defense of malpractice suits. The sum of the amounts sued for has often exceeded \$300,000 a year and while the Association has been most successful in defending these suits, new suits will be filed from time to time. It is the duty of every member to cooperate to the end that medical defense in Georgia will be a rare event.

To the Members of the Medical Association of Georgia:

It has been a great pleasure to me to come to the home of Allen Bunce and to speak to the Medical Association of Georgia.

Your welcome has been most cordial and your entertainment most lavish. Your medical meeting is excellent in every detail, including attendance, business transaction of your House of Delegates, scientific and technical exhibits.

Your reception of the American Medical Association Movie, detailing the activities of the Association, is sincerely appreciated. It is a further evidence of the profound interest of the physicians of Georgia in safeguarding the ideals of the medical profession.

AUSTIN A. HAYDEN, M.D., *Sec'y.,*
Board of Trustees, A. M. A.

PELLAGRA CASES AND DEATHS IN THE UNITED STATES—1932

(Taken from Supplement No. 109 to the Public Health Reports, Issued by the United States Public Health Service.)

<i>States Where Most Prevalent</i>	<i>Cases</i>	<i>Deaths</i>
Mississippi	5,868	308
South Carolina	3,389	410
North Carolina	1,627	465
Arkansas	1,173	222
Georgia	986	492
Alabama	702	350
Virginia	531	127
Tennessee	433	250
Louisiana	390	177
Texas	-----	701

Total for the U. S. 15,643 4,134

GEORGIA DEPARTMENT OF PUBLIC HEALTH

T. F. ABERCROMBIE, M.D., *Director*

SANITATION NECESSARY FOR PUBLIC HEALTH PROTECTION

In our modern and complex environment sanitation covers a wide range in protection of public health. Both urban and rural sanitation are very important factors involved in any program of health protection. From the fundamentals of sanitation up to and including sanitary engineering in its most technical and complicated application, sanitation stands as the foundation for the structure of public health.

The division of sanitary engineering of the Georgia Department of Public Health renders a distinct service to the general public in prevention and control of all diseases applicable to sanitation and sanitary engineering. Possibly the diseases most applicable to the science of sanitation are the several kinds of dysentery, typhoid fever, hookworm and malaria. The application of sanitation for control of these diseases extends from the isolated modest rural home to the cities of the largest populations.

Every county and incorporated subdivision in the state of Georgia is in dire need of health protection through the science of sanitation. Such application involves chiefly the proper disposal of human excreta. It is necessary therefore in beginning a rural home to provide a modern sanitary privy where water under pressure and modern plumbing is not available. In a rural or suburban home where water pressure and plumbing is available yet without the facilities of a common sewer line, a modern concrete home sewage disposal plant according to plans furnished by the State Department of Health is a necessity.

The average shallow dug well found on most farms and suburban areas is usually a potential danger to rural populations. A drilled or bored well with iron or steel casing and a pump is most desirable even though this type may cost considerably more than a shallow dug well. A shallow dug well should at least be provided with a casing from bottom to top and there connected with a concrete or water-tight platform on which a pump should be placed. The two prime fundamentals of rural sanitation are: first, a safely constructed well or spring; and second, a sanitary means of excreta disposal, such as a home septic tank or a sanitary privy. If this ideal could be obtained at

every rural or suburban home in the state of Georgia, we would immediately begin to see an almost inconceivable downward trend in our state's typhoid fever death rate.

It truly can be stated that today with our municipal water supplies which are being built up to the highest point of efficiency by the State Department of Health, as well as improvement of municipal sewage disposal, that dysentery, hookworm and typhoid fever are outstanding as rural suburban diseases.

There is great need for the practicing physician who holds the confidence and respect of the rural family to aid the State Department of Health in protection of the health of the rural people by preaching the gospel of sanitation to every family he contacts in his practice. In certain sections of our state the physician evidently observes a very high percentage of hookworm infection. Records of the State Department of Health show that in some counties in the state the infection of hookworm in the school children population is deplorable. These children can be successfully treated with drugs, but if modern sanitary privies are not provided for these families reinfections may be expected. In fact it seems evident that the treatment of hookworm is not complete without provision for a sanitary method of excreta disposal at the home. The same may also be said of typhoid fever. It is evident that a great deal of typhoid fever is fly-borne due to the disregard for proper disposal of excreta.

A patient may be successfully treated for malaria infection but in a community having an acute malaria problem with heavy parasitic infection both in man and mosquito there can be no assurance that a cured patient will not immediately become reinfected. When a physician attends a person with malaria infection it would seem a natural question for him to ask the patient or the head of the household where is the source of water producing the mosquitoes which infected the family with malaria. Sometimes this represents a difficult problem involving expensive drainage. At other times the problem may be very simple involving a few hours work or less time on the part of farm labor. Even should the problem be expensive, if a large percentage of the population is infected with malaria, it represents a profitable investment.

(Continued on page 272)

WOMAN'S AUXILIARY

OFFICERS

President—Mrs. Ernest R. Harris, Winder.
 President-Elect—Mrs. Wm. R. Dancy, Savannah.
 First Vice-President—Mrs. Hulett H. Askew, Atlanta.
 Second Vice-President—Mrs. Warren A. Coleman, Eastman.
 Third Vice-President—Mrs. T. J. Ferrell, Waycross.
 Recording Secretary—Mrs. W. R. Garner, Gainesville.
 Corresponding Secretary—Mrs. S. T. Ross, Winder.
 Treasurer—Mrs. W. M. Cason, Sandersville.

Historian—Mrs. Marvin F. Haygood, Atlanta.
 Parliamentarian—Mrs. Ralph H. Cheney, Augusta.
Committee Chairmen
 Health Films—Mrs. A. J. Mooney, Statesboro.
 Student Loan Fund—Mrs. Benjamin Bashinski, Macon.
 Public Relations—Mrs. J. A. Redfearn, Albany.
 Press and Publicity—Mrs. J. Harry Rogers, Atlanta.
 Jane Todd Crawford Memorial—Mrs. Eustace A. Allen, Atlanta.
 Research in Romance of Medicine—Mrs. D. N. Thompson, Elberton.

BUSINESS OF STATE CONVENTION

The Woman's Auxiliary to the Medical Association of Georgia held one of its most interesting and successful meetings May 7-10, 1935, at the Biltmore Hotel in Atlanta.

The Executive Board met at the hotel Tuesday evening with the President, Mrs. J. E. Penland, presiding. The meeting was opened with prayer, after which the minutes of the past convention and Advisory Committee and Executive Committee meetings were read and approved.

Elected to serve on the nominating committee were Mesdames C. W. Roberts, A. J. Mooney, C. L. Ayers, Lee Howard, Marion Benson, T. J. Ferrell and Mrs. Peacock. Elected to the auditing committee were Mesdames Marion C. Pruitt, Eustace A. Allen and Mrs. A. H. Bunce.

The following members attended the meeting: Mesdames Marion T. Benson, Ralph H. Chaney, S. T. R. Revell, Dan Y. Sage, C. W. Roberts, M. F. Haygood, Eustace A. Allen, Lee Howard, E. R. Harris, A. J. Mooney, Hugo Johnson, and Warren A. Coleman.

The delegates and Executive Board of the Woman's Auxiliary were called to order by the President, Mrs. J. E. Penland, Wednesday morning in the convention hall and then the Rev. Richard Orme Flynn, Pastor of the North Avenue Presbyterian Church, gave the invocation.

Mrs. Dan Y. Sage, of Atlanta, gave the address of welcome, to which Mrs. Hugo Johnson, of Savannah, responded.

Mrs. James N. Brawner, past President of the Southern Medical Auxiliary and of the state Auxiliary, introduced the following distinguished guests, Mrs. Allen H. Bunce, past President of the American Medical Auxiliary, the Southern Medical Auxiliary, and of the state Auxiliary; Mrs. J. Bonar White, President of the S. M. A., Third Vice-President of the A. M. A., and past President of

the state organization; Mrs. Charles P. Corn, President of the South Carolina Auxiliary; Mrs. C. W. Roberts, Mrs. Marion T. Benson, and Mrs. S. T. R. Revell, past Presidents of the state Auxiliary; Mrs. H. H. Askew, retiring President, and Mrs. Dan Y. Sage, President of the Fulton County Auxiliary; Mrs. C. L. Ayers, wife of the President of the Medical Association of Georgia; and all state officers and chairmen of standing committees.

Mrs. Allen H. Bunce made an inspiring address of the Auxiliary on "The A. M. A. as an Organization," after which Mrs. J. Bonar White stressed the importance of being a well-informed Auxiliary member.

Dr. B. H. Minchew, Chairman of the Advisory Committee to the Auxiliary, introduced Dr. C. L. Ayers, President of the Medical Association of Georgia, who very interestingly told of his observations of the Auxiliary during the past year.

Mrs. Calhoun McDougall reported on the entertainment features planned, after which Mrs. M. M. McCord, Parliamentarian, read the rules governing the convention.

The minutes of the tenth annual session of the Auxiliary were read and approved.

The following district managers gave their reports, Mrs. Lee Howard, First District; Mrs. Joseph Yampolsky, Fifth District; Mrs. W. F. Reavis, Eighth District; and Mrs. W. R. Garner, Ninth District.

Dr. Joe P. Bowdoin and Miss Annie Taylor, of the State Board of Health, were introduced to the convention. Dr. Bowdoin stated that the death rate at child birth was lowered by 128 last year and he gave much credit to the Auxiliary for this condition, because of the extensive program on Health Education, which the Auxiliary sponsored.

Reports were made from the following counties, Barrow, Bibb, Chatham, Cherokee, Pickens, Colquitt, Dodge, DeKalb, Fulton, Habersham, Jackson, Jefferson, Richmond, Stephens, Ware and Washington.

The chairman of Credentials Committee, Mrs. J. C. Blalock, reported that 115 women had registered for the convention.

The following committees were appointed by the chair: Resolutions, Mesdames M. F. Haygood, C. H. Richardson, E. R. Harris, D. H. Garrison, and C. L. Ayers; and Courtesy, Mesdames W. F. Reavis, Hugo Johnson and Ralph H. Chaney.

The Thursday morning session of the Auxiliary was called to order by the President, Mrs. J. E. Penland, after which Mrs. Lee Howard, of Savannah, gave the invocation.

Mrs. H. H. Askew, immediate past President of the Fulton County Auxiliary, welcomed the delegates, to which Mrs. Ralph H. Chaney, of Augusta, responded.

The following distinguished guests were introduced, Dr. Theodore Toepel, Mrs. E. D. Shanks and Mrs. J. Edgar Paullin, all of Atlanta.

Mrs. William M. Cason reported on activities of the Sixth District.

The minutes of the delegates and executive board meetings were read and approved, after which the President called attention to the scrapbook on display.

Mrs. Marion T. Benson gave the report of the Woman's Auxiliary to the A. M. A., and stated that in the future the organization would be known as the American Medical Auxiliary.

Mrs. Ed Greene gave a report on the activities of the Woman's Auxiliary to the S. M. A., in San Antonio last November.

Dr. B. H. Minchew made an inspiring talk on "Observation of the Woman's Auxiliary as made by the Chairman of the Advisory Committee for the Past Seven Years."

Dr. James E. Paullin, President-Elect of the Medical Association of Georgia, addressed the assembly on "The Obligation of the Medical Profession and Allied Organizations in a Diversified Health Program."

The following reports from officers were read and adopted: President, Mrs. J. E. Penland; President-Elect, Mrs. E. R. Harris; First Vice-President, Mrs. Ralph H. Chaney; Second Vice-President, Mrs. J. M. Barnett; Third Vice-President, Mrs. Hugo Johnson; Recording Secretary, Mrs. Warren A. Coleman; Corresponding Secretary, Mrs. B. H. Minchew; Treasurer, Mrs. Charles H. Richardson; and Historian, Mrs. Marvin F. Haygood.

Chairmen of the standing committees reported as follows: Mrs. Eustace A. Allen, the Jane Todd Crawford Memorial Committee; Mrs. D. N. Thompson, Medical Research; Mrs. E. A. Bancker, Jr., Public Relations;

Mrs. A. J. Mooney, Health Films; Mrs. Benjamin Bashinski, Student Loan Fund; Mrs. Dan Y. Sage, Legislation; and Mrs. J. Bonar White, Press and Publicity.

Mrs. Allen H. Bunce, Chairman of the Auditing Committee, reported the treasurer's book as being correct and in good order.

The following resolution, introduced by Mrs. S. T. Ross, of the Barrow County Auxiliary, was submitted by Mrs. C. L. Ayers: "Whereas it appears that many organizations have adopted some flower: whereas the Woman's Auxiliary to the Medical Association of Georgia has not as yet taken this forward step: resolved, that we now designate and name a flower for the organization. Whereas the beautiful fox glove (*digitalis*) so graces and beautifies our gardens and fills such a prominent place in our husband's armamentarium; therefore, be it resolved, that the same be designated as our organization's flower."

Mrs. Lee Howard gave the report of the Courtesy Committee and Mrs. J. C. Blalock, Chairman of Credentials, reported 13 officers, 21 delegates, 3 district managers and 77 visitors registered for a total of 133.

Mrs. C. W. Roberts, Chairman of the Nominating Committee, submitted the following slate of officers for the coming year: Mrs. E. R. Harris, Winder, President; Mrs. W. R. Dancy, Savannah, President-Elect; Mrs. H. H. Askew, Atlanta, First Vice-President; Mrs. Warren A. Coleman, Eastman, Second Vice-President; Mrs. T. J. Farrell, Waycross, Third Vice-President; Mrs. W. R. Garner, Gainesville, Recording Secretary; Mrs. W. M. Cason, Sandersville, Treasurer, and Mrs. Marvin F. Haygood, Atlanta, Historian.

Mrs. Marion T. Benson moved that the report be accepted and that the Secretary cast the elective ballot.

After the installation of officers, the gavel was presented to Mrs. E. R. Harris by the retiring President, Mrs. Penland.

Corsages were presented in behalf of the Fulton County Auxiliary to Mrs. J. Bonar White, Mrs. J. E. Penland, Mrs. H. H. Askew and Mrs. Dan Y. Sage; of the Barrow County Auxiliary and the Fulton County Auxiliary to Mrs. E. R. Harris; and of the Chatham County Auxiliary to Mrs. W. R. Dancy.

The President then declared the eleventh annual convention adjourned.

Post Convention Meeting

The post convention meeting of the Woman's Auxiliary was called to order by the

President, Mrs. E. R. Harris, at the Biltmore Hotel Friday morning, May 11.

Chairmen of the following standing committees were appointed: Mrs. H. H. Askew, Atlanta, Health Education; Mrs. Dan Y. Sage, Atlanta, Legislation; Mrs. A. J. Moonsey, Statesboro, Health Films; Mrs. Benjamin Bashinski, Macon, Student Loan Fund; Mrs. J. A. Redfearn, Albany, Public Relations; Mrs. J. Harry Rogers, Atlanta, Press and Publicity; Mrs. Ralph H. Chaney, Augusta, Parliamentarian; Mrs. S. T. Ross, Winder, Corresponding Secretary; Mrs. Eustace A. Allen, Atlanta, Jane Todd Crawford Memorial; and Mrs. D. N. Thompson, Elberton, Research in Romance of Medicine.

Delegates and alternates to the A. M. A. were named as follows: Mesdames J. Bonar White, L. G. Baggett, H. H. Askew, Joseph Yampolsky, and Olin Cofer, all of Atlanta; W. M. Cason, Sandersville, and James C. Metts, Savannah.

A motion unanimously carried, that the Georgia delegates to the A. M. A. be instructed to vote against the motion which would prohibit doctor's widows from holding offices.

Mrs. W. M. Cason moved that the libraries of Georgia be furnished with material on the life of Jane Todd Crawford, which motion was carried.

Attention was called to the necessity of all county presidents explaining the State Health Program to Auxiliary members.

Mrs. Warren A. Coleman moved that the name of the Woman's Auxiliary to the Medical Association of Georgia be abbreviated so that it will be known as the Georgia Medical Auxiliary. The motion was seconded but as this will necessitate an amendment to the constitution a vote will be taken at the next annual convention.

Social Features

The social features arranged by the hostess Auxiliary added greatly to the enjoyment of the delegates.

Tuesday evening Dr. and Mrs. Frank K. Boland entertained at an open house in their home on Peachtree Circle for members of the Medical Association of Georgia and Auxiliary.

Wednesday at 1:00 o'clock the guests enjoyed a beautifully appointed luncheon at the Piedmont Driving Club, after which they were taken on a tour to some of Atlanta's most beautiful gardens, which had been hospitably thrown open to them.

Wednesday afternoon Dr. and Mrs. J. Edgar Paullin entertained with a tea from 5 to 7 o'clock on the terrace of the Piedmont

Driving Club, at which several hundred persons were present. A number of informal open houses in the homes of Atlanta doctors were features of the evening.

Following a round table luncheon at the Biltmore Hotel Thursday the visitors were taken to the beautiful Atlanta Flower Show. The annual banquet, at which Auxiliary and Association members joined was held at the Biltmore Hotel at 8:00 o'clock and followed by a dance.

HEALTH SANITATION NECESSARY

(Continued from page 269)

It may be stated that a ditch in time saves quinine, and also that the most profitable sickness or life insurance policy is a simple and effective drainage project. It is usually a small item of expense to properly screen a rural home.

The family physician is in a position to both cure and prevent sickness. The family physician who preaches sanitation in addition to administering drugs is in position to save many human lives. The Georgia Department of Public Health considers the physician its strongest ally in the fight against communicable diseases. The physicians of the state are in position to render a great service in public health through the practice of medicine and sanitation, for medicine plus sanitation equals health.

L. M. CLARKSON,
Chief, Division of Sanitary Engineering.

MEDICAL PRACTICE ACTS: BOARD OF MEDICAL EXAMINERS MAY PROSECUTE

The state board of medical examiners of New Jersey instituted this proceeding against Louis Adler, charging him with practicing medicine without a license. Adler was convicted and appealed to the supreme court of New Jersey.

The fact that the medical practice act specifically devolves on district attorneys the duty of prosecuting violations of the act, said the supreme court, does not thereby prohibit the board of medical examiners from prosecuting violators through any other official or attorney. Adler, the court continued, had an office in which he apparently received patients. He was not licensed to practice but he did diagnose physical ailments, prescribe medicines and charge therefor sums clearly indicating that it was for advice as well as for medicine. This conduct, concluded the court, established the fact clearly that Adler was engaged in the practice of medicine within the meaning of the medical practice act. The judgment of the trial court was therefore affirmed.—*State Board of Medical Examiners of New Jersey v. Adler (N. J.)*, 174 A. 215.—*J. A. M. A.*, May 25, 1935.

BOOK REVIEWS

Anatomy for Dental Students, Edited by E. P. Stibbe, F.R.C.S., Senior Demonstrator in Anatomy, London Hospital Medical School and Examiner in Anatomy to the Royal College of Surgeons (England). First Edition. Cloth. Price, \$6.00. Pp. 429 with 246 illustrations. Baltimore: William Wood & Company, 1934.

This book has been written by six teachers of anatomy in several of the more important medical colleges of England. Its purpose "is to present to dental students and practitioners as much of the subject of human anatomy as is necessary for their examination and for reference." The need for such a book is quite obvious and they have accomplished their purpose in a satisfactory fashion. Such anatomical material as is considered essential to the proper education of the dental student has been wisely selected and presented in a clear concise form that should make its assimilation much less difficult. There are many illustrations throughout the entire text.

The anatomical descriptions of the limbs and also of the teeth are purposely omitted. This plan certainly seems rational and might well be followed by our American dental colleges. This is compensated for by a much more detailed description of the entire head and neck which is of so much more value to the dental student.

The nomenclature is the new English version of the Basle nomenclature, with the old nomenclature along side in brackets.

The book will certainly prove of considerable value to the dental student and practitioner. Unfortunately the omissions will limit its use to this particular field of practice.

HENRY POER, M.D.

Bridges' Dietetics for the Clinician—This book presents an up-to-date treatment of the dietetic problems met in general practice. Dr. Bridges has been ably assisted in his work by some twenty authors, each writing in his special field. Ample space is given to the principles and general considerations of the subject, such as the mechanics of digestion and its physiology and chemistry. In addition, the aim of each diet presented is discussed with a brief but illuminating description of the conditions which it is designed to meet. For hurried reference, however, sample menus are supplied for each disease. Much space is devoted to Bright's disease, peptic ulcer, and diabetes mellitus. Several ulcer diets are offered, so that the reader may take his choice. Two of these diets are given in detail for the entire course of treatment. While the discussion of diabetes is comprehensive and detailed, the author has put secondary emphasis on his sample menus, stressing rather the principles involved, so that the reader is spared the temptation to lift a diet bodily from the book. An extensive list of diabetic recipes is included, and should be welcomed by the average practitioner. The pediatric section includes menus for the nursing mother, feeding schedules and formulae for

both health and disease, and analyses of the various commercial preparations for infant feeding.

One of the most attractive features of the book is the completeness of the sample menus. All diets have menus furnished for three days, while some are supplied for the entire treatment period.

The reviewer was disappointed to find pellagra omitted from this excellent book.

MCCLAREN JOHNSON, M.D.

Surgical Applied Anatomy, by Sir Frederick Treves, Bart. Ninth Edition, Revised by C. C. Choyce. The new edition of this book has been changed only in the interests of surgical and anatomical details. New technique and advance in the surgical field have caused a few changes to be made. It is still the clear, concise little volume which has always made it very useful to students, teachers and surgeons in general. Information, easily and quickly accessible, makes it a valuable book for both reference and study.

W. S. DOROUGH, M.D.

The Doctor's Bill, by Hugh Cabot. Columbia University Press. New York, N. Y. Price \$3.00.—The economic problems as related to the practice of medicine have become more and more pressing during the past decade. They were pressing before the financial collapse of 1929. Since that catastrophe they have become even more urgent. These problems have widespread implications. Not only are physicians vitally interested, but also young men and women who contemplate medicine as a profession. The public is also more conscious than ever of this problem as the question of medical care touches the lives of a very large proportion of America's millions.

An immense amount of information as well as a good deal of misinformation has been disseminated, but those who honestly seek the facts have found it difficult to find a clear unbiased statement of the case.

Dr. Cabot's book admirably presents in pleasing form and style a lucid account of the development of modern medical practice with particular reference to the question of expense to both patient and doctor. He contrasts medical practice in 1890 and 1930, and gives a chapter to modern medical diagnosis and its requirements. This chapter is particularly adapted to lay readers, as it gives a good idea of the extensive and hence expensive diagnostic methods of the present day.

The medical resources of the United States are discussed with appropriate statistical tables showing percentage of doctors to population as well as nurses and hospitals.

In an orderly, though at times slightly prolix manner, there is discussed general practice, specialism, group medicine, group health service, and workmen's compensation.

The chapter on the income of physicians is enlightening and shows careful and accurate statistical studies.

Nineteen pages are devoted to health insurance in continental Europe and the British Isles.

The medical needs in the United States are well ana-

lyzed, and it is interesting to note that the author states that he does not despair of the employment of the principal of voluntary group prepayment plans for those of moderate income.

Dr. Cabot discusses with fairness, but discrimination, the laissez faire attitude of the American Medical Association regarding the problem of medical care, and makes it clear that he is not in accord with many of the policies they have adopted.

In his final chapter entitled "Where Do We Go From Here," he indulges in a thought provoking discussion with suggestions for plans. There is an excellent bibliography at the conclusion of the book.

In many state and county societies, there have been appointed committees on medical economics. Such committees would gain an excellent idea of the situation and find many helpful suggestions from a study of Dr. Cabot's book.

LEWIS M. GAINES, M.D.

BOOKS RECEIVED

Surgical Applied Anatomy by Sir Frederick Treves, Bart. Ninth Edition revised by C. C. Choyce, M.D., Edin., Eng. Professor of Surgery, University of London; Director of the Surgical Unit University College Hospital Medical School; Surgeon to University College Hospital; Consulting Surgeon to the Deamen's Hospital, Greenwich. Contains 720 pages. Illustrated with 174 figures including 64 in color. Publishers: Lea & Febiger, Washington Square, Philadelphia, Pennsylvania. Price \$4.00.

The Science and Practice of Surgery by W. H. C. Romanis, M.A., M.B., M.Ch. (Cantab), Edin., Eng. Surgeon and Lecturer on Surgery, St. Thomas' Hospital; Surgeon to the City of London Hospital for Diseases of the Chest; Examiner in Surgery to the University of Cambridge, and Philip H. Mitchiner, M.D., London, Eng., Hon. Surgeon to H. M. The King; Hunterian Professor, Royal College of Surgeons of England; Surgeon in Charge of Out-Patient and of the Septic Wards, Teacher of Operative Surgery and Demonstrator of Anatomy, St. Thomas' Hospital. Fifth Edition, published 1934. Contains 1901 pages, illustrated with 758 engravings. Vol. 1—General Surgery. Vol. II.—Regional Surgery. Publishers: Lea & Febiger, Washington Square, Philadelphia, Pennsylvania.

International Clinics—A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles on Treatment, Medicine, Surgery, Neurology, Pediatrics, Obstetrics, Gynecology, Orthopedics, Pathology, Dermatology, Ophthalmology, Otolaryngology, Rhinology, Laryngology, Hygiene, and other topics of interest by leading members of the medical profession throughout the world. Edited by Louis Hamman, M.D., Visiting Physician, Johns Hopkins Hospital, Baltimore, Md., with the collaboration of fourteen others. Vol. II, Contains 327 pages. Publishers: J. B. Lippincott Company, Medical Department, Philadelphia, Pennsylvania. Price \$4.00.

Clinical Laboratory Methods and Diagnosis—A Textbook on Laboratory Procedures with Their Interpretation by R. B. H. Gradwohl, M.D., Director of the Gradwohl Laboratories; Director of the Gradwohl Scholl of Laboratory Technique; Director of Laboratories, St. Louis County Hospital; Chief of Staff and Pathologist to Christian Hospital; Lieutenant Commander, Medical Corps, Fleet, United States Naval Reserve. Contains 1928 pages with 328 illustrations in the text and 24 color plates. Publishers: The C. V. Mosby Company, 3523-25 Pine Boulevard, St. Louis, Missouri. Price \$8.50.

The Story of Medicine in the Middle Ages by David Riesman, M.D., Professor of the History of Medicine and Professor Emeritus of Clinical Medicine, University of Pennsylvania; Member, History of Science Society and Medieval Academy of America. Contains 402 pages—illustrated. Publisher: Paul B. Hoeber, Inc., 76 Fifth Avenue, New York City. Price \$5.00.

The Biochemistry of Medicine by A. T. Cameron, M.D., Professor of Biochemistry, Faculty of Medicine, University of Manitoba; Biochemist, Winnipeg General Hospital, and C. R. Gilmour, M.D., Professor of Medicine and Clinical Medicine, University of Manitoba; Physician, Winnipeg General Hospital. Second Edition, contains 518 pages with 31 illustrations. Publishers: William Wood & Company, Mount Royal and Guilford Avenues, Baltimore, Maryland. Price \$6.00.

Anatomy for Dental Students—Systemic and Practical by six teachers. Edited by E. P. Stribbe, F. R. C. S., Senior Demonstrator in Anatomy, London Hospital Medical School; Examiner in Anatomy to the Royal College of Surgeons (Eng.) for the Conjoint Board. Contains 429 pages. Publishers: William Wood & Company, Mount Royal and Guilford Avenues, Baltimore, Md. Price \$6.00.

Physical Diagnosis by Richard C. Cabot, M.D., Professor of Clinical Medicine Emeritus in Harvard University, Formerly Chief of the West Medical Service at the Massachusetts General Hospital. Eleventh Edition. Contains 540 pages. Publishers: William Wood & Company, Mount Royal and Guilford Avenues, Baltimore, Md. Price \$5.00.

The Principles and Practice of Medicine, designed for the practitioners and students of medicine. Originally written by the late Sir William Osler, M.D., formerly Fellow of the Royal College of Physicians, London; Regius Professor of Medicine, Oxford University; Honorary Professor of Medicine, Johns Hopkins University School of Medicine; Professor of the Institute of Medicine, McGill University, Montreal, and Professor of Clinical Medicine in the University of Pennsylvania, Pa. Twelfth edition revised by Thomas McCrae, M.D., Fellow of the Royal College of Physicians, London; Professor of Medicine, Jefferson Medical College, Philadelphia; Physician to the

Jefferson and Pennsylvania Hospitals, Philadelphia; formerly Associate Professor of Medicine, Johns Hopkins University. Contains 1196 pages. Publishers: D. Appleton-Century Company, New York City, N. Y. Price \$8.50.

NEWS ITEMS

The Cobb County Medical Society met at Marietta on June 4th. Dr. Wm. Willis Anderson, Atlanta, read a paper entitled *Digestive Disturbances of the Season in Children*. Dr. George Eubanks read a paper on *Surgical Treatment*.

The fifteenth annual meeting of the Medical and Surgical Section of the Association of American Railroads was held in Atlantic City, New Jersey, on June 10-11. This Association is national in its scope and is supported by class "A" railroads in the United States and Canada. The work is in charge of the chairman of various sections, the most important is the Medical and Surgical Section. Its functions are to improve the ability of its operatives largely through preventive medicine and surgery. Dr. J. R. Garner, Atlanta, was elected Chairman of the Medical and Surgical Section. This honor is the highest to be attained by any member of the railway surgical staff. Dr. J. R. Garner was President of the American Association of Railway Surgeons, 1926-27; President of the Association of Railroad Chief Surgeons, 1927-28; and Southern States Association of Railway Surgeons, 1926-27.

The Georgia Medical Society, Savannah, held its regular monthly meeting on June 11th. Dr. M. K. King, U. S. P. H. S., read a paper entitled *Treatment of Fracture Below the Knee with Walking Plaster Cast*; Discussion led by Dr. Julian Quattlebaum. Dr. S. P. Sanford, U. S. P. H. S., *Vascular Lesions of the Lung Simulating Pneumonia*, discussion led by Dr. C. Y. Bailey.

The staff meeting of St. Joseph's Infirmary, Atlanta, was held on May 28th. Dr. C. W. Strickler made a clinical talk, *Use of Di-lod-Tyrosine in Thyrotoxicosis*, discussion led by Dr. John Funke. Dr. Frank K. Boland gave a case report, *Carcinoma of the Cervix*, discussed by Dr. Calvin Stewart.

Dr. Wm. Willis Anderson, Atlanta, President of the Georgia Pediatric Society, announces the appointment of the Society's Scientific Committee, as follows: Dr. W. L. Funkhouser, Atlanta, Chairman; Dr. M. Hines Roberts, Atlanta, and Dr. Joseph Yampolsky, Atlanta.

Dr. Roy R. Kracke, Emory University, was elected President-Elect of the American Society of Clinical Pathologists at the Society's recent annual meeting held in Atlantic City. He was one of ten men selected to address the Society this year. Dr. Kracke discussed the work at Emory University School of Medicine which resulted in the discovery of the cause of agranulocy-

tosis. He was awarded the Ward-Burdick medal last year because of his discovery.

Dr. T. F. Abercrombie, Atlanta, Director, Georgia Department of Public Health, and President of the State and Provincial Health Authorities of North America, attended the fiftieth annual conference held in Atlantic City, N. J., June 14-15. From Atlantic City he attended Surgeon General Cumming's conference in Washington on June 17-18, and then the Children's Bureau conference in Washington on June 19th.

Dr. William S. Goldsmith, Atlanta, was elected President of the Alumni Association of the Medical Department of Emory University School of Medicine; Dr. John M. Akin, Birmingham, Ala., First Vice-President; Dr. W. G. Elliott, Cuthbert, Second Vice-President; and Dr. Marion C. Pruitt, Atlanta, Secretary-Treasurer.

Dr. Allen H. Bunce, Atlanta, sailed from New York on June 29th for a cruise to the North Cape. While away he expects to visit clinics and medical institutions in Oslo, Norway; Helsinfors, Finland; Copenhagen, Denmark; Gothenburg and Stockholm in Sweden. In addition, he will make special trips to Leningrad and Moscow, Russia. He will return to his office and resume his practice of medicine on August 15th.

Dr. T. P. Goodwyn, Atlanta, read a paper on *Fractures* before the Spalding County Medical Society at Griffin on June 18th.

Dr. J. D. Applewhite has returned from Harvard University Medical School, Boston, where he took post-graduate study for several months. He has resumed his duties as Macon health officer.

The Thomas County Medical Society met at the John D. Archbold Memorial Hospital, Thomasville, on June 19th. Dr. J. R. McMichael, Quitman, spoke on *A New Plan for the Practice of Medicine*; Dr. Arthur D. Little, Thomasville, *A Review of Hysterectomies in the John D. Archbold Memorial Hospital*; Dr. Ernest F. Wahl, Thomasville, *Pneumothorax in the Treatment of Pulmonary Tuberculosis*.

Dr. Joe B. Peniston, Newnan, entertained the members of the Coweta County Medical Society and their families at a barbecue at Wynn's Pond on June 20th.

Dr. W. W. Young, Atlanta, spoke on *Child Psychology* before a regular monthly meeting of the Kiwanis Club at Columbus on June 25th.

The Randolph County Medical Society met at the Patterson Hospital, Cuthbert, on July 5th. Dr. William C. Cook, Columbus, read a paper entitled *Summer Complaint in Children*.

The Ware County Medical Society met at the Atlantic Coast Line Hospital, Waycross, July 3rd. The members were the guests of Dr. T. J. Ferrell and other members of the staff. After the regular routine business, Dr. Ferrell read a paper on *The Mortality of Appendicitis*.

The Cobb County Medical Society met at the home of Dr. and Mrs. J. W. Ellis, Kennesaw, President of the Society. The guests were entertained at supper. The scientific program consisted of an address by Dr. W. A. Selman, Atlanta, Councilor for the Fifth District, on *Strangulated Hernias*; Dr. Edgar D. Shanks, Atlanta, Secretary-Treasurer of the Association, spoke on *The Diagnosis and Treatment of Heart Disease*. There were only two members of the Society absent.

Any member of the Association who may wish to purchase volumes of the transactions of the Medical Association of Georgia for any of the following years: 1881, 1882, 1883, 1886, 1887, 1888, 1890, 1892, 1893, 1899, 1900, 1901, 1902, 1903, 1904, 1906, 1908 and 1910, may write to Mr. J. T. Hardwick, 7 Auburn Avenue, Atlanta, for prices. He has one volume for each year mentioned.

Dr. Edgar G. Ballenger, Atlanta, attended a recent meeting of the American Urological Association at San Francisco.

Dr. W. O. Bedingfield, Savannah, announces that Dr. Thomas A. Peterson will be associated with him in the practice of medicine at 7 West Gordon Street.

Dr. T. F. Abercrombie, Atlanta, Director of the Department of Public Health, announces that a branch laboratory will be established at Albany with a full-time technician in charge. The extension of this service for Dougherty and adjoining counties was possible through the help and cooperation of the Dougherty County Board of Health.

Dr. J. L. Campbell, Atlanta, Chairman of the Cancer Commission of the Medical Association of Georgia, was re-elected Director of the Cancer Clinic at the Georgia Baptist Hospital, Atlanta, at the first anniversary meeting of the Clinic.

Dr. Abe Davis, Americus, resumed his duties as Sumter County Commissioner of Health on July 1st. He had been on leave of absence to take post-graduate work at Vanderbilt University School of Medicine, Nashville, Tenn.

Dr. and Mrs. Benning M. Kennon, McRae, celebrated their golden-wedding on June 23rd. Open house was kept during the day and about two hundred friends visited them.

Many of the Savannah doctors were guests at a dinner given in honor of Dr. M. E. Winchester at Brunswick, Glynn County Commissioner of Health,

on June 28th, in recognition of his work which won the first health prize given by the United States Public Health Service in the southeast.

Dr. Geo. F. Eubanks announces that after August 1st, his practice will be limited to diseases of the colon and rectum. Office in the Doctors Building, 478 Peachtree Street, N.E., Atlanta.

Dr. Craig Barrow, Savannah, was elected President of the surgical staff of the Georgia Infirmary at Savannah.

Dr. James E. Paullin, Atlanta, President of the Association, delivered an address before the Tennessee Valley Medical Association at Knoxville, Tenn., on June 26th.

Dr. C. C. Aven, Dr. Champ Holmes, and Dr. A. Worth Hobby, all of Atlanta, attended the thirty-first annual convention of the National Tuberculosis Association held at Saranac Lake, New York, recently.

Dr. J. R. Sams announces the removal of his office to the Turner Memorial Building, Covington, and added modern equipment to his supplies for the diagnosis and treatment of diseases.

The First District Medical Society met at Savannah, July 17th. The Scientific program consisted of titles for paper as follows: "Doctors, Divine or Deluded," Dr. E. S. Osborne, Savannah; *Maternal Mortality in Georgia*, Dr. E. D. Colvin, Atlanta, Chairman of the Committee for the Study of Maternal Mortality and Infants Deaths, Medical Association of Georgia; *Tannic Acid Treatment of Burns*, Dr. J. D. Martin and Dr. A. J. Mooney, Jr., Atlanta; *Surgical Treatment of Goiter—Moving Picture Illustration*, Dr. D. Henry Poer, Atlanta; *The Prevention and Treatment of Lung Abscesses*, Dr. C. C. Aven, Atlanta; *Present Problems of the Medical Association of Georgia*, Dr. James E. Paullin, Atlanta, President of the Association; *Acute Myocarditis*, Dr. Q. A. Mulkey, Millen.

The Chattahoochee Valley Medical and Surgical Association held its thirty-fifth annual session at Radium Springs, Albany, on July 9, 10, 11. Casino Building was headquarters. Officers for the fiscal year just ended, who reside in Georgia were: Dr. Chas. C. Harrold, Macon, President; Dr. Chas. H. Richardson, Macon, and Dr. Frank K. Boland, Atlanta, members of the Board of Council. Georgia doctors on the scientific program with titles of papers were: Dr. D. Henry Poer, Atlanta, *Carcinoma of the Thyroid—Report of Interesting Case*; discussion led by Dr. Chas. H. Richardson and Dr. Jas. L. Campbell. Dr. Thos. L. Ross, Macon, *Peripheral Vascular Disease with Special Reference to the Lower Extremities. Including Gangrene and Sclerosis of the Legs and Feet—Latent Slides*; discussion led by Dr. R. S. Leadingham and Dr. T. L. Byrd. Dr. E. F. Wahl, Thomasville, *Observation of Mycotic Infection—Case Report*; discus-

sion led by Dr. Hal M. Davison and Dr. L. Minor Blackford. Dr. R. Cullen Goolsby, Jr., Macon, *Intratracheal Birth Injuries—Report of Two Cases*; discussion led by Dr. J. C. McDougall, Dr. Murdock Equen and Dr. I. W. Irvin. Dr. J. A. Redfearn, Albany, *A Clinical and Electrocardiographic Study of the Heart*; discussion led by Dr. T. E. Rogers. Dr. Jno. B. Fitts, Atlanta, *Gastro-Intestinal Dysfunction and the Vitamin B Factor; Use of Wheat Germ in 100 Cases*; discussion led by Dr. McClaren Johnson and Dr. J. K. Quattlebaum. Dr. W. P. Jordan, Columbus, *Undiscovered Urology in Physical Examinations*; discussion led by Dr. J. C. Keaton and Dr. Stephen T. Brown. Dr. Jas. J. Clark, Atlanta; Dr. R. C. Pendergrass, Americus, and Dr. Wm. F. Lake, Atlanta, *Symposium on Obscure Bone Lesions*; discussion led by Dr. Lawson Thornton and Dr. Thomas Harrold. Dr. O. R. Thompson, Macon, *Cesarean Section*; discussion led by Dr. Jno. B. Duncan and Dr. Marion T. Benson. Dr. Earl Floyd and Dr. J. L. Pittman, Atlanta, *Irritable Bladder in the Female*; discussion led by Dr. B. T. Beasley. Dr. Roy R. Kracke, Atlanta, *Agranulocytosis: Etiology, Diagnosis and Treatment*. Dr. J. M. Barnett, Albany, *Reducing the Hazards of Acute Intestinal Obstruction*; discussion led by Dr. Lon Grove and Dr. A. D. Little. Dr. Chas C. Hinton, Macon, *Coronary Disease*. Dr. E. G. Ballenger, Dr. O. F. Elder and Dr. H. P. McDonald, Atlanta, *The Suction Treatment of Undescended Testicle—Illustrated by Moving Pictures*. Dr. Benjamin Bashinski, Macon, *Clinical Experience of 115 Cases of Whooping Cough Immunized by the Masden Method*; discussion led by Dr. Don F. Cathcart and Dr. Clifford A. Peacock. Dr. Frank K. Boland, Atlanta, *Surgical Treatment of Pulmonary Tuberculosis*; discussion led by Dr. T. C. Davison. Dr. Wm. L. Cooke, Columbus, *Discussion of Blood Stream Infection—Report of Two Cases*; discussion led by Dr. J. C. Patterson and Dr. Hulett H. Askew. Dr. Carl C. Aven, Atlanta, *The Treatment of Pneumonia—Review of Five Years' Records in Atlanta Hospitals*; discussion led by Dr. Champ Holmes and Dr. Trimble Johnson.

Dr. D. H. Garrison, formerly of Tate, has moved to Clarksville and will be associated in the practice of medicine with his brother, Dr. W. H. Garrison.

OBITUARY

Dr. Edward Pinson McLennan, Parrott; Atlanta College of Physicians and Surgeons, Atlanta, 1905; aged 58; died at the home of his brother-in-law, Karl Fletcher in Parrott, after a long illness on May 31, 1935. He retired from practice a number of years ago on account of his health. While in active practice, he had a large clientele and was a successful practitioner. Surviving him are his widow, one son, Hugh McLennan, United States Navy; two daughters, Mrs. Ford, Hartsford, Ala., and Miss Irene McLennan, Selma, Ala. Funeral services were conducted from the residence of Mr. Fletcher by Rev. C. F. Starnes and Rev. J. W. Ham. Burial was in the Parrott cemetery.

Dr. Alton R. Danforth, Norcross; Southern Medical College, Atlanta, 1890; died at his home on June 5, 1935. He practiced in Atlanta for a number of years then moved to Norcross and retired. Surviving him are his widow, three nieces and one nephew. Funeral services were conducted at the graveside in Fairburn cemetery.

Dr. Buford O'Neal Joiner, Tennille; member; Atlanta School of Medicine, Atlanta, 1912; aged 49; died after a long illness at his home on June 16, 1935. He was a member of one of the most prominent families of Washington county and one of Tennille's most useful citizens. Dr. Joiner held the esteem and confidence of all who knew him. He served as chairman of the Tennille Board of Health for many years and as deacon of the Baptist church. Surviving him are his widow, one son, Buford Joiner of Savannah; one young daughter, little Miss Ann Joiner. Rev. W. M. Marshall conducted the funeral services from the Tennille Baptist church. Members of Washington County Medical Society were an honorary escort. Burial was in Zeta cemetery.

Dr. James A. Lester, Fayetteville; member; Emory University School of Medicine, 1894; aged 65; died at his home on June 24, 1935. He was born and reared in Fayette county and had practiced medicine there for about forty years. Dr. Lester took an active interest in civic and religious affairs. He was for many years superintendent of the Baptist Sunday School and a member of the Fayetteville Baptist church. Surviving him are his widow, one son, J. A. Lester, Jr., Dalton; two daughters, Mrs. Blair Cannon, Chattanooga, Tenn.; and Mrs. George Richardson, Atlanta. Funeral services were conducted from the Fayetteville Baptist church by Rev. Brewer and Rev. Allen. Burial was in the Fayetteville cemetery.

Dr. Elijah A. Lambert, Denton; Atlanta School of medicine, Atlanta, 1909; aged 60; died at a private hospital in Americus on June 21, 1935. He had been an active practitioner and well known as a successful physician. Surviving him are his widow. Funeral services were conducted from the Adams Funeral Parlor in Ashburn. Burial was in the Ashburn cemetery.

COMMUNICATIONS

Physicians and Dentists Health Association,
Clark Building.
Jacksonville, Florida.
Gentlemen:

On June 5, 1935, Dr. C. A. Stevenson of Camilla wrote me a letter making inquiry about the Physicians and Dentists Health Association of Jacksonville, Florida. I forwarded this letter to you requesting a reply which I duly received. In this letter you stated that your organization is exempted from the control and regulations of the Insurance Department of Georgia as explained in the Georgia code of 1933.

A letter received from Dr. Edgar D. Shanks, Secretary-Treasurer of the Medical Association of Georgia,

enclosed a form letter from the Insurance Department, State of Georgia, a copy of which I am attaching herewith. After due consideration I have decided to return your policy with the request that my name be dropped from your Advisory Committee.

J. A. REDFEARN, M.D.

Albany, Georgia.
June 20, 1935.

LICENSE SHOULD BE REGISTERED

To the Editor:

A very important item was left out of the report of the Committee on Medical Defense, to which I wish you would call the attention of the members of the Association.

The Committee wishes to caution members to be sure to see that their licenses to practice medicine are registered in the counties in which they practice. Most doctors are aware of this law and have complied with it, but every now and then some worthy member of the Association finds that he cannot collect a bill legally because he has failed to register his license. The license must be registered in the office of the Clerk of the Superior Court.

Dr. J. O. Elrod, of Forsyth, Georgia, a member of the Committee on Medical Defense, called attention to this and other matters in a very valuable paper which he read at the Augusta meeting in 1930.

FRANK K. BOLAND, M.D., *Chairman,*
Committee on Medical Defense.

Atlanta, Ga., May 15, 1935.

PROVISIONAL SUMMARY OF LIVE BIRTH, INFANT MORTALITY, AND STILLBIRTH STATISTICS IN THE UNITED STATES; 1934

The Bureau of the Census announces that in continental United States, during the calendar year, 1934, there were 2,158,919 live births, 129,400 deaths of infants under one year of age, and 78,436 stillbirths. These figures represent a birth rate of 17.1 per 1,000 estimated population, an infant mortality rate of 59.9 per 1,000 live births, and stillbirth rate of 3.6 per 100 live births. In 1933 the corresponding rates were 16.6, 58.1 and 3.7.

New York, Pennsylvania, Texas, and Illinois lead the states with the greatest number of births, as follows: 185,615; 160,238; 116,603; 110,225, respectively. The states with the highest birth rates, however, were: New Mexico, 27.9; North Carolina and Utah, each 24.1; South Carolina, 24; Alabama, 23.4; West Virginia, 23.2; and Mississippi, 23. The lowest birth rates were 12.7 in California and 12.9 in New Jersey.

Infant mortality rates were excessively high in New Mexico (132.1), and Arizona (103)—both states with a large number of nomadic Mexicans and Indians who have little knowledge of infant care. The next highest rates were 86.1, 78.9, and 77.4 for South Carolina, Georgia and North Carolina, respectively—all Southern States with large Negro populations. The

lowest rates were those of Oregon and Washington, 39.8 and 43, respectively.

The ratio of stillbirths per 100 live births for the United States in 1934 was 3.6. Comparison of this ratio between the states should be made with caution, as there is no single definition of stillbirth in general use and the application of the term varies widely in the law and practices of the different states.

—Department of Commerce, Bureau of the Census,
Washington, D. C.

SUMMER DIARRHEA IN BABIES

Casec (calcium caseinate), which is almost wholly a combination of protein and calcium, offers a quickly effective method of treating all types of diarrhea, both in bottle-fed and breast-fed infants. For the former, the carbohydrate is temporarily omitted from the 24-hour formula and replaced with 8 level tablespoonfuls of Casec. Within a day or two the diarrhea will usually be arrested, and carbohydrate in the form of Dextrin-Maltose may safely be added to the formula and the Casec gradually eliminated. Three to six teaspoonfuls of a thin paste of Casec and water, given before each nursing, is well indicated for loose stools in breast-fed babies. Please send for samples to Mead Johnson & Company, Evansville, Indiana.

BETTER OINTMENTS

Every physician who is in the habit of prescribing ointments in certain conditions knows that a very considerable advance has been made in recent years in the quality of these pharmaceutical products. There are certain refinements in manufacturing processes that have been added from time to time by progressive pharmaceutical houses. In a recent discussion on ointments a representative of the well-known manufacturing house of Eli Lilly and Company made known that in the production of ointments bearing the Lilly Label attention has been given to the improvement of formulas for ointments, while inspection, and control methods have become increasingly exacting. In the Lilly Laboratories such items as Zinz Oxide, Resorcinol Compound, Boric Acid, Ammoniated Mercury, and Whitfield Modified are illustrative of products whose ingredients are of the very highest purity and of correct therapeutic value. Finished products are subjected to critical tests, even to a diversified array of analytical assays for certain formulas. There are, it is said, definite requirements as to smoothness, consistence, and uniformity of all Lilly ointments. Such facts regarding ointments tend to show why some labels attain a certain prestige among prescribers even though casual inspection fails to make known what the difference in brands consists of.

Tomato products made from moldy or otherwise unfit material, though representing a small percentage of such products on the market, are still in the front rank of food law violators. Thirty-three lots were seized in May, Federal officials report.

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MATERNAL MORTALITY IN GEORGIA DURING THE YEAR 1933*

Report of the Committee for the Study of Maternal Mortality

Your Committee, appointed by the President, Dr. C. L. Ayers, on July 12, 1934, for the study of Maternal Mortality and Infant Deaths, submits the following report:

The report is an analysis of the records of 412 or 88.9 per cent of the 463 women who died in the state of Georgia during pregnancy, labor or the puerperium, between January 1, and December 31, 1933, inclusive.

Early in the survey your Committee was convinced that an attempt to study infant mortality would not be practical. It would require an enormous expenditure of money and time, and inasmuch as approximately fifty per cent of the confinements in this state were supervised by others than medical attendants, very little information could possibly be obtained.

Method of Survey

A copy was made of the certificates of deaths assignable to puerperal causes as reported to the Georgia Bureau of Vital Statistics. The physicians, midwives, or others signing the certificates were then visited, or questioned by mail, using a questionnaire to accumulate the desired information. If the physician could not supply the desired data, his permission was obtained to interview the family, hospital records, or other sources of information. The physicians interviewed, with the exception of two instances, cooperated heartily, giving freely of their time and knowledge, and helped in every possible way. Although comparatively few of them had kept records, most of them had a vivid recol-

lection of the case and its essential points. In many cases they had been called in for the first time when the patient was moribund, hence they could not supply an accurate history. In several instances the physicians had died since they had attended the women who were dead of puerperal causes.

For cases in which there had been no attending physician it was difficult to obtain an accurate medical history, and in many of these, information was obtained from a midwife or the family of the deceased. It was impossible to locate many of the midwives and as a rule they were evasive of questions when approached by a representative of the committee.

Collection of the data was started in November, 1934, and completed on April 1, 1935. In a few instances as many as three questionnaires were sent to physicians without an answer. For purposes of comparison we followed the outlines of previous studies—(1), (2), (3).

Acknowledgement of Assistance

The Committee wishes to express its grateful appreciation for the valuable cooperation, interest and assistance rendered it by Mrs. Abbie R. Weaver, the State Supervisor of Nursing Projects, and her splendid staff of county nurses. We realize that their aid has made the study a success, and we are deeply appreciative of the whole-hearted cooperation which they have given the Committee. We regret that, for the lack of space, we cannot list the name of each county nurse and the county in which she works. We are indeed obligated to them.

The Staff of the Bureau of Vital Statistics has rendered prompt and efficient service to the Committee. To them our thanks are extended, especially to Dr. Bowdoin of the Department of Health.

The Committee is indebted to Dr. J. R. McCord, one of its members, for his valuable

*Report of the Committee for the Study of Maternal Mortality to the House of Delegates of the Medical Association of Georgia, Atlanta, May 8, 1935.

assistance and suggestions in the collection and preparation of this study. His experience has been of great value in the preparation of the report. The collection of the necessary data has been facilitated by the hearty cooperation of the physicians, midwives and hospitals concerned.

Births, Deaths and Mortality Rate in the Counties of the State

Chart I, is self explanatory. It records the number of births, deaths, and mortality rate per 1000 live births in the respective counties.

During the year of the survey there were 60,744 live births recorded in the state. Of these, 463 women died—a puerperal death rate of 7.6 per 1000 live births. The national mortality death rate for puerperal causes was 6.3 per 1000 live births for the same year. The puerperal death rate for the three preceding years was as follows: In 1930, deaths 658, rate 10.9; in 1931, deaths 616, rate 10.0; in 1932, deaths 620, rate 9.6 per 1000 live births. During the year 1933, 24,470 or 42 per cent of the 60,744 live births in the state were attended by midwives. The responsibility of the attendants to puerperal deaths will be shown later in the report.

Classification of Puerperal Deaths

The international list of the causes of death (4) was used as the basis for the analysis of these deaths. The titles included are as follows: In table I, abortion includes miscarriage, premature labor, missed abortion, etc. It is defined as the termination of a uterine pregnancy before the 28th week of gestation.

Ectopic gestation is self-explanatory. Due to errors in certification, the term accidents of pregnancy was dropped and the cases assigned to the proper coding.

The term, puerperal hemorrhage, includes placenta previa, premature separation of the placenta, hydatid mole, postpartum hemorrhage and the unqualified hemorrhages.

Under puerperal septicemia, was included postpartum sepsis occurring after the 28th week, puerperal peritonitis, pyelitis following childbirth, phlegmasia alba dolens, etc.

The term, puerperal albuminuria and eclampsia, includes pre-eclampsia, chronic

TABLE I
CLASSIFICATION OF DEATHS ACCORDING
TO INTERNATIONAL LIST

140	Abortion with septic conditions.
141	Abortion without mention of septic conditions (to include hemorrhages).
142	Ectopic gestation.
143	Other accidents of pregnancy (not to include hemorrhages).
144	Puerperal hemorrhage.
145	Puerperal septicemia (not specified as due to abortion).
146	Puerperal albuminuria and eclampsia.
147	Other toxemias of pregnancy.
148	Embolus and sudden death (not specified as septic).
149	Other accidents of childbirth.
150	Other and unspecified conditions of the puerperal state.

TABLE II
PERCENTAGE DISTRIBUTION OF 412 DEATHS
BY PRINCIPAL CAUSES

CAUSE OF DEATH	Number	Per Cent
Abortion, sepsis	53	12.8
Abortion, hemorrhage	7	1.7
Septicemia	95	23.1
Albuminuria and eclampsia	137	33.2
Accidents of labor	30	7.3
Hemorrhage	58	14.2
Nonobstetrical	14	3.4
Embolus and sudden death	7	1.7
Ectopic gestation	8	1.9
Vomiting of pregnancy	3	.7

nephritis complicated by pregnancy, eclampsia, and uremia.

Pernicious nausea and vomiting makes up the group of other toxemias of pregnancy.

Under embolus and sudden death, the Committee has placed deaths occurring suddenly without a satisfactory explanation of the etiology.

Other accidents of labor, include deaths following or during cesarean section not due to infection; deaths during or following instrumental or breech deliveries; rupture of the uterus; faulty presentations; inversion of the uterus; abnormal or difficult labor; tears of the cervix or perineum; postpartum shock not due to hemorrhage, and similar terms.

The term, other and unspecified conditions of the puerperal state includes deaths occurring during pregnancy or the puerper-

TABLE III
CAUSE AND PERCENTAGE DISTRIBUTION OF DEATH
IN WHITES AND NEGROES

CAUSE OF DEATH	TOTAL		WHITE		NEGROES	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
TOTAL	412	100.0	215	52.2	197	47.8
Abortion, sepsis	53	12.8	29	13.5	24	12.2
Abortion, hemorrhage	7	1.7	3	1.4	4	2.0
Ectopic gestation	8	1.9	3	1.4	5	2.6
Hemorrhage	58	14.2	31	14.4	27	13.7
Septicemia	95	23.1	45	20.9	50	25.0
Albuminuria and eclampsia	137	33.2	74	34.5	63	31.9
Vomiting of pregnancy	3	.7	3	1.4		
Embolus and sudden death	7	1.7	4	1.8	3	1.6
Accidents of labor	30	7.3	17	7.9	13	6.9
Nonobstetrical	14	3.4	6	2.8	8	4.1

ium, resulting from diseases independent of the pregnancy. When more than one puerperal condition appeared as the cause of death, the death was assigned to one of them in accordance with the rules published in the manual of Joint Causes of Death (5). For example, if cesarean section and eclampsia appeared, the death was assigned to puerperal albuminuria and eclampsia. If cesarean section, eclampsia and peritonitis appeared, the death was assigned to puerperal septicemia.

Pneumonia, causing death before the onset of labor was classified under other and unspecified conditions of the puerperal state.

In some cases, the cause of death stated on the death certificate did not correspond with data found on the returned questionnaire. In such instances it was necessary to rewrite the physician, explaining the difference in diagnosis, and await an answer before classifying the death.

In all cases the Committee, feeling that the attending physician would be qualified to state the cause of death, has refrained from changing the cause of death, except when altered by the physician himself. On several charts, the Committee has felt that the diagnosis was erroneous but has purposely avoided changing it for fear of misrepresenting facts.

Distribution of Deaths

Chart I, is self-explanatory, showing the geographical distribution by counties the number of deliveries, the number of deaths and the death rate per 1000 live births.

Causes of Death

As noted in Table II, albuminuria and eclampsia were responsible for 137 or 33.2

TABLE IV
DEATHS ACCORDING TO RACE AND
MARITAL STATUS (412)

	MARRIED		SINGLE	
	Number	Per Cent	Number	Per Cent
White	204	49.5	11	2.7
Negro	159	38.6	38	9.2

per cent of the 412 deaths. Septicemia was next, and was the cause of 95 or 23.1 per cent of the deaths. If the septic abortions are combined with the 95 cases of sepsis following delivery in the third trimester, then sepsis leads the list and is responsible for 35.9 per cent of the deaths. Hemorrhage was responsible for the deaths of 14.2 per cent of the women. Abortion was the cause of 14.5 per cent of the deaths. Four per cent of these were criminally induced. Of the 137 deaths due to albuminuria and eclampsia, 109 died during or following convulsions; nineteen were classified as chronic nephritis complicated by pregnancy, and nine were listed as dying of preeclampsia. Accidents occurring during delivery caused 7.3 per cent of the deaths.

Distribution of Deaths Among White and Negroes

A study of Table III reveals that 215 or 52.2 per cent of the deaths were among white women, while the remainder or 47.8 per cent were negroes. Deaths following abortions, ectopics, and hemorrhages were about equally distributed between the two races. The incidence of septicemia as a cause of

TABLE V
RELATION OF PRENATAL CARE TO CAUSES OF DEATH
(EXCLUSIVE OF 68 ABORTIONS AND ECTOPICS)

CAUSE OF DEATH	TOTAL DEATHS		ADEQUATE		INADEQUATE		NONE	
	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
TOTAL	344	100.0	29	8.5	36	10.4	279	81.1
Prem. separa. of placenta	6	1.7					6	2.1
Placenta Previa	22	6.4	2	6.8	3	8.4	17	6.5
Postpartum hem.	30	8.7	2	6.8	2	5.6	26	9.3
Puerperal sepsis	95	27.6	7	24.8	8	22.4	80	28.0
Albuminuria and eclampsia	137	39.8	10	34.4	10	27.6	117	42.0
Other toxemias	3	.8	1	3.3	2	5.6		
Embolus and sudden death	7	2.1					7	2.5
Accidents of labor	30	8.7	5	17.1	8	22.0	17	6.5
Nonobstetrical	14	4.2	2	6.8	3	8.4	9	3.1

TABLE VI
COMPARATIVE DANGER OF FIRST AND SUBSEQUENT
PREGNANCIES BY CAUSE OF DEATH

CAUSE OF DEATH	PRIMIGRAVIDA			MULTIGRAVIDA	
	Total	Number	Per Cent	Number	Per Cent
Total	412	177	42.9	235	57.1
Abortions	60	22	12.4	38	16.1
Ectopic gestation	8	3	1.6	5	2.2
Hemorrhage	58	12	6.7	46	19.5
Puerperal septicemia	95	35	19.7	60	25.5
Albuminuria and eclampsia	137	85	48.0	52	22.1
Pernicious vomiting	3	3	1.6		
Embolus and sudden death	7			7	2.9
Accidents of labor	30	15	8.0	15	6.6
Nonobstetrical causes	14	2	1.1	12	5.1

death was higher among negroes, and the death rate among women suffering with toxemia was found higher among white women. Accidents occurring during labor were one per cent higher among white, than in colored women.

Deaths According to Race and Marital Status

As noted in Table IV, of the 215 white women who died, 11 or 2.7 per cent were illegitimately pregnant; of the 197 deaths in negroes, 38 or 9.2 per cent were illegitimate pregnancies. Of the 49 illegitimate pregnancies, 27 or 55.1 per cent died as a result of abortions. Twenty-one of these were stated to have been criminally induced. Eight women among the illegitimate pregnancies died of eclampsia. Forty-two of these women were primigravidae.

Prenatal Care

In studying Table V, after excluding 68 women whose deaths were due to abortions

and ectopics, there remained 344 women who should have received prenatal care. Of these 344 women, 279 or 81.1 per cent had had no prenatal examination or instruction by a physician. Physicians could not be held responsible for these 279 deaths, for they had not been consulted.

Thirty-six or 10.4 per cent of the women had visited a physician one or more times, but had not cooperated with the physicians. If a woman had visited a physician one time, her prenatal care was classified under the heading, Inadequate. Twenty-nine or 8.5 per cent of the women had cooperated freely with the physician and he stated that her prenatal care was adequate. Six women or 20.6 per cent of those credited with adequate prenatal care died of eclampsia. Of the 65 women having adequate or inadequate care, 41 were white and 24 were negroes. Among the 279 women who had received no prenatal care, 117 or 42 per cent died of albuminuria and eclampsia—an almost preventable dis-

TABLE VII

CAUSE OF DEATH BY MONTHS OF PREGNANCY

CAUSE OF DEATH	MONTHS							
	Total	1-3	4	5	6	7	8	9
Abortion, septic	53	35	8	3	3	4		
Abortion, hem.	7	1	2	3	1			
Ectopic gestation	8	6				2		
Placenta previa	22				2	4	7	9
Premature separation of placenta	6				1		1	4
Postpartum hem.	30					2	5	23
Puerperal sepsis	95					5	12	78
Albuminuria and eclampsia	137			1	3	8	31	94
Vomiting of preg.	3		1	2				
Embolus and sudden death	7							7
Accidents of labor	30						5	25
Nonobstetrical	14	1	1	2	1	4	3	2
Total	412	43	12	11	11	29	64	242

Period of Gestation

The relation of the duration of pregnancy to the various causes of death is shown in Table VII. Seventy-seven or 18.8 per cent of the deaths occurred during the first two trimesters of pregnancy, and 335 or 81.2 per cent died in the third trimester. The table is self-explanatory except for the two ectopics occurring in the seventh month. Both were secondary abdominal pregnancies and died of peritonitis following abdominal operations.

Operations

Of the 335 women who reached the third trimester of pregnancy, 153 or 45.6 per cent had had some form of operative procedure directed toward delivery before death. These include unsuccessfully attempted operative procedures as well as completed operations

TABLE VIII
RELATION OF METHOD OF DELIVERY TO CAUSE OF DEATH IN
153 OPERATIVE DELIVERIES—TYPE OF DELIVERY

CAUSE OF DEATH	Total op. deliv.	Multiple methods	Cesar. sec.	Forceps	Version	Breech	Hysterectomy
Total	153	16	12	62	49	12	2
Prem. separa. of placenta	5			2	3		
Plac. previa	14				12	2	
Postpart. hem.	20	4		9	3	4	
Sepsis	46	7	10	14	10	3	2
Albuminuria and eclampsia	47	3	2	27	12	3	
Accidents of labor	21	2		10	9		

ease! Sepsis was responsible for 28 per cent of the deaths among those who had not received prenatal care.

Parity

The relationship of parity to death is shown in Table VI. 177 or 42.9 per cent were primigravidae, and 235 or 57.1 per cent were multigravidae. Albuminuria and eclampsia were responsible for death more than twice as often in primigravidae than among multigravidae. Abortions caused 16.1 per cent of the deaths in multiparous women and 12.4 per cent of the fatalities among nulliparous women. Hemorrhage was the cause of death approximately three times as often among multigravidae as in primigravidae, the percentage table showing 19.5 per cent versus 6.7 per cent. Puerperal septicemia was 5.8 per cent higher among multiparous women.

and are recorded in Table VIII. There were 12 deaths following, and due to cesarean section. Sixty-two deaths occurred after forceps deliveries; 49 died following versions; 12 died following breech extractions; 2 died after hysterectomies and 16 women were delivered by some form of operative procedure following a failure of another method. Note that 47 or 34.3 per cent of a total of 137 cases of albuminuria and eclampsia were delivered by operative procedures.

Methods of Delivery of the Placenta

Table IX, discloses that the placenta was manually removed from the uterus 33 times or in 10 per cent of 330 women over 28 weeks pregnant. This procedure was used after 7 spontaneous deliveries, 5 forceps, 13 versions, 5 breech extractions, 2 abdominal pregnancies and once from an inverted uterus. Cesarean section was not included in this

TABLE IX
METHODS OF DELIVERY OF PLACENTA—
330 CASES
(Exclusive of Abortions and Ectopics)

METHODS OF DELIVERY	Number	Per Cent
Undelivered:		
Died in pregnancy	16	4.7
Died in labor	18	5.5
Delivered:		
Cesarean	12	3.7
Manual	33	10.0
Spontaneous	147	44.6
Simple expression	62	18.7
Crede	42	12.8

TABLE X
TYPE OF ANESTHESIA USED IN THE
DELIVERY OF 323 CASES IN THE
THIRD TRIMESTER

	Number	Per Cent
Chloroform	53	16.4
Ether	39	12.2
N ₂ O or Ethylene	17	5.2
Local	2	.6
None	212	65.6

group. Postpartum hemorrhage was responsible for 17, and sepsis for 12 of the deaths following manual removal of the placenta.

The Committee thinks that many placentas were delivered by simple expression rather than by Crede. However, we have listed the method of delivery as recorded on the questionnaire by the attendant.

Anesthesia

Of 323 pregnancies reaching the third trimester of pregnancy, 212 or 65.6 per cent were delivered without the use of anesthesia. It was found that chloroform was used at the time of delivery of 53 women, 39 of whom were eclamptics.

One woman, at term, while being prepared for an elective cesarean section, died immediately following the injection of a spinal anesthetic. Her baby was not delivered.

Method of Onset of Labor

Table XI, reveals that the onset of labor was spontaneous in 275 or 85.2 per cent of women who were in labor during the third trimester.

TABLE XI
ONSET OF LABOR AMONG WOMEN DYING
FROM PUERPERAL CAUSES WHO HAD
REACHED THE LAST TRIMESTER OF
PREGNANCY (Exclusive of Cesareans
and Deaths Prior to the Onset
of Labor)—323 Cases

METHODS	Number	Per Cent
Spontaneous	275	85.2
Medical Indication:		
C. O. and Q.	9	2.7
Pituitrin	3	.9
Surgical Induction:		
Art. Rupt of		
Membr.	6	1.8
Catheter	13	4.1
Bag	7	2.3
Packing	2	.6
Combination	8	2.4

TABLE XII
PRINCIPAL INDICATIONS FOR CESAREAN
SECTION AND IMMEDIATE CAUSE
OF DEATH—12 CASES

INDICATIONS FOR OPERATION	Total	CAUSE OF DEATH	
		Sepsis	Toxemia
Eclampsia	8	6	2
Placenta previa	1	1	
Obstructed labor	2	2	
Transverse position	1	1	

In spite of the fact that rupture of the membranes is considered safer, more reliable and simple, it was found that the intra-uterine insertion of catheters or hydrostatic bags was resorted to approximately five times more often than this method to induce labor.

Among 35 eclamptics in whom labor was induced, the successful procedure was as follows: Castor oil and quinine in 6; pituitrin in 1; artificial rupture of the membranes in 4; catheters in 12; hydrostatic bags in 6, and a combination of catheter and bag in 6 cases.

Cesarean Section

Included in the survey are 12 deaths following cesarean section on living women. The indications are listed in Table XII.

The Committee has knowledge of five other deaths following cesarean section, but was unable to get an answer to the questionnaire from the responsible physicians. It is

TABLE XIII
PRINCIPAL INDICATIONS FOR 62 FORCEPS DELIVERIES
AND THE IMMEDIATE CAUSE OF DEATH

INDICATIONS FOR OPERATION	Total	IMMEDIATE CAUSE OF DEATH			
		Sepsis	Toxemia	Postpartum hemorrhage	Accidents of labor
Inertia uteri and long labor	10	8		2	
Albuminuria and eclampsia	31	16	9	4	2
Errors of flexion and rotation	7	3		3	1
Premature separation of placenta	2			2	
Placenta previa	2				2
Heart disease	2				2
Large baby	1	1			
Not specified	7	6		1	

TABLE XIV
PRINCIPAL INDICATIONS FOR 49 DELIVERIES BY VERSION
AND THE IMMEDIATE CAUSE OF DEATH

INDICATION FOR OPERATION	Total	IMMEDIATE CAUSE OF DEATH			
		Shock and rupt. ut.	Sepsis	Postpartum hemorrhage	Toxemia
Placenta previa	12	2	1	9	
Long labor	13	1	10	2	
Premature separation of placenta	1			1	
Errors in flexion and rotation	3		2		1
Transverse presentation	3	1	2		
Heart disease	2	1		1	
Toxemia	14	4	4	1	5
Not specified	1		1		

possible that other deaths following cesarean section occurred. Of the 12 cases studied, 8 were white and 4 negroes. Nine were primigravidae. Three were elective and nine were emergency operations. Eight of the women were in labor. All of the operations were of the classical type. Eleven of the operations were performed in hospitals and one in the home. An attempt at delivery through the pelvis had been made in 6, or 50 per cent of them preceding the operation.

Eclampsia was the chief indication for 8 cases; placenta previa for 1; obstructed labor for 2, and a transverse position for one. Infection was responsible for the death of 10 or 83.3 per cent of the deaths following section. Two died of toxemia, one during operation and the other less than two hours after operation.

Of the 12 infants, only seven were delivered alive.

Forceps Delivery

During the period of the survey there were 62 deaths associated with forceps deliveries. This represents 15 per cent of the deaths studied and 40.5 per cent of the 153 opera-

tive deliveries of women after the twenty-eighth week of pregnancy. Forty-nine of these were primigravidae. Eclampsia led the list of indications, appearing in 31 or 50 per cent. Inertia and long labor was next, appearing in 10 or 17 per cent. The other indications are recorded in Table XIII.

Forty-one or 66 per cent were white women.

The Committee was unable to classify the types of operation. Forty-three of the operations were performed in the home of the patient. Sepsis was responsible for 34 or 54.8 per cent of the deaths and hemorrhage for 14 or 22.5 per cent.

Of 63 babies, including one set of twins, delivered by forceps, 27 or 42.8 per cent were stillborn.

Version

As listed in Table XIV, there were 49 deaths following successful delivery by internal podalic version. These constitute 11.8 per cent of the deaths studied, or 32 per cent of the 153 deaths following operative deliveries of women over 28 weeks pregnant. Thirty-one women were primigravidae

TABLE XV

ATTENDANT AT DELIVERY BY CAUSE OF DEATH
(Pregnancies of 28 Weeks and Over)

CAUSE		Physician or Interne	Midwife	Midwife relieved by Physician	Others
Total	327	169	56	65	37
Per Cent	(100)	(51.8)	(17.2)	(19.9)	(11.1)
Abruptio	6	5		1	
Placenta previa	22	11	1	9	1
Postpartum hemorrhage	30	11	4	7	8
Sepsis	95	18	39	23	15
Albuminuria and eclamp.	137	94	10	24	9
Embolus and sudden death	7		2	1	4
Accidents of labor	30	30			

Thirty-eight of the versions were performed in the home. Placenta previa, long labor, and toxemia were about equally divided as the indication for 39 of the 49 versions. The principal causes of death following version were as follows: Sepsis, 20 or 40.8 per cent postpartum hemorrhage, 14 or 28.5 per cent and shock in 9 or 18.3 per cent.

In 11 women, version and extraction followed an unsuccessful attempt to deliver with forceps. Twenty-eight or 57.1 per cent of the babies delivered by version followed by breech extraction were stillborn.

Place of Delivery and Place of Death

Of the 412 deaths studied, 277 occurred in hospitals, and 135 in the home. Of the 277 hospital deliveries, 201 were admitted as emergencies and 76 had planned for hospital confinement. One hundred and nine of the 201 emergency admissions had been delivered of the fetus when admitted to the hospital.

Infants

From the 335 women reaching the third trimester of pregnancy, there were 263 infants delivered alive. Eleven sets of twins were included in the series.

Attendant at Delivery

Table XV, indicates the attendants at 337 labors after the 28th week of gestation. Thirty-seven or 11.1 per cent of the deliveries followed by death were attended by others than midwives and physicians; midwives alone attended 56 or 17.2 per cent; midwives were replaced by physicians in 65 or 19.9 per cent; and 169 or 51.8 per cent

of the women were attended by physicians alone.

During the year covered in this survey, midwives attended 24,470, or 42 per cent of the total of 60,744 livebirths recorded by the bureau of vital statistics.

Comments by the Committee

Chart I, showing the geographical distribution of maternal deaths, is self-explanatory. The physicians of the respective counties should study the map carefully and thoughtfully. Remember that all data appearing in this report is recorded as supplied to it by the physicians of the state. It is not a corrected report.

In this study the international list of the causes of death, although not entirely satisfactory from a medical standpoint, was used in order that a comparison of the findings might be made with those of other investigations.

The fact that 109 women died of convulsive toxemia shows that a serious situation exists in regard to the type of prenatal care that women of this state receive during pregnancy. Good prenatal care would have prevented a loss of a large number of these women, as well as a large per cent of those dying of the hemorrhages associated with pregnancy. The incidence of death following abortion is too high. This subject also demands attention. A more careful observation of the principles of asepsis and anti-sepsis, along with fewer vaginal manipulations and examinations through an unprepared vulva should lower the incidence of death due to sepsis. Time after time informa-

tion was obtained that would associate sepsis with careless or repeated vaginal manipulations.

Contrary to the usual belief, it was found that more white women were included in this survey than colored. One of the most important findings in this survey was the fact that 81.1 per cent of all women, exclusive of abortions and ectopics, had not been attended by a physician prior to the onset of the trouble associated with her death. The attending physician could not be held responsible for these deaths. However, when physicians state that 29 women had adequate prenatal care and six of these die of eclampsia, they cannot be released from the responsibility. In the great majority of such instances the physician has failed in his responsibility to the patient. Evidence of the value of prenatal care is noted when one surveys the annual reports of well-organized clinics.

Prenatal care was more frequent among women of urban centers. It was indeed rare among women living in rural districts.

Although midwives attended almost one-half of the live births in the whole state during this survey, they could not be held responsible for the increased death rate. Midwives contacted 37.1 per cent of all the 327 women dying after the seventh month of pregnancy. Sepsis was the most important cause of death among women attended by midwives. Toxemia, hemorrhage and the accidents of labor were more often encountered in women dying under the care of physicians. Physicians attended 51.8 per cent of the women, exclusive of those in which they relieved the midwives.

No information could be obtained in regard to the association of pituitary extract with deaths.

In this survey it was impossible to arrive at conclusions as to the comparative safety of deliveries in hospitals and homes. The majority of hospital deliveries were emergency cases and many women died in hospitals after they were delivered in their homes.

Approximately one-third of the deaths occurred during the first two trimesters of gestation.

Illegitimate pregnancies were associated with 11.8 per cent of the deaths. More than

two-thirds of these were negroes. Abortions and eclampsia were responsible for the majority of the deaths among illegitimately pregnant women.

Primigravidae made up 42.9 per cent of the mortalities in the entire series. Of these, 48 per cent died of toxemia—twice as many as in multigravidae. A higher per cent of sepsis, hemorrhage and deaths following abortions was found among multiparous women.

Of the 327 women reaching the third trimester of pregnancy, 153 were delivered by operative procedures—almost 50 per cent of them.

Too often a classical cesarean section followed a failure of delivery through the pelvis. The association of death with delivery by version and forceps is shown in Table XIII. Version was more often the operation of choice in rural districts. The Committee feels that the incidence of version operations was too high, especially among patients suffering with toxemia. The manual removal of the placenta thirty-three times following 330 deliveries is to be condemned. Your Committee is thoroughly convinced, following this survey, that the physicians of this state, should again study the mechanism and management of the third stage of labor—and practice both. Too often hemorrhage has been the cause of deaths, especially when 20 of 153 women delivered by operative procedures die of it. In several instances it was found that women died of a postpartum hemorrhage soon after the attendant left the home. Undoubtedly the attendant could have prevented a number of these hemorrhage deaths, had he not been in a hurry to leave the home following the delivery.

The large proportion of abortions shows a very serious situation. Twenty-eight per cent of all the deaths were due to this condition. Approximately seven-eighths of these died of sepsis. The influence of operative treatment on the mortality rate among abortion deaths could not be determined.

The percentage of the cesareans performed because of eclampsia is appalling. Although the mortality in eclampsia treated by section is known to be higher than in those treated conservatively, this fact was not appreciated. Seven of the eight eclamptics delivered by

cesarean were operated upon as emergencies immediately after admission to the hospitals without a preliminary effort to control the convulsions. Peritonitis caused ten of the twelve deaths following cesarean section. The survey reveals that the old classical operation is still used in the majority of cases. The low cervical and Porro operation probably would have lowered the mortality rate among the cases delivered by cesarean section. Many surgeons fail to recognize the fact that cesarean section has a limited place in the treatment of eclampsia.

The fact that 23.1 per cent of the term pregnancy labors died of sepsis, deserves attention. Delivery was spontaneous in 51.5 per cent of these. The midwives had a larger percentage of deaths from sepsis than the physicians. The Committee was unable to determine the responsibility of the technic of the conduct of labor from an aseptic and antiseptic standpoint to the incidence of sepsis.

Of the 22 deaths caused by placenta previa, 17 gave a warning of the condition in the form of one or more small hemorrhages at some time preceding the bleeding that required interference. Yet the 17 were treated expectantly or the condition not recognized. Fourteen cases were treated by operative interference, twelve of which were by version. Nine of the placenta previa cases died of postpartum hemorrhage. Fluids and blood transfusions were infrequently used. Too often following a Braxton Hick's version an immediate breech extraction was done, rather than leave the breech to tamponade the bleeding area and dilate the cervix. Only four of the 22 placenta previa cases had the benefit of a uterine pack following delivery.

The unwise selection of an anesthetic was frequent, as proven by the fact that 29 of 53 eclamptics were delivered under chloroform anesthesia. No anesthesia was given to 65.6 per cent of the women.

In spite of the excellent results obtained by simple rupture of the membranes to induce labor, catheters and bags were used five times as often.

The Committee refrains from commenting upon deaths due to accidents following operative deliveries, with the exception of mentioning a few points. It realizes that

the average practitioner, working in an unfavorable environment and attending only an occasional operative delivery, is bound to have more technical difficulty than his fellow physicians working in more ideal surroundings. Twenty-seven forceps deliveries and twelve versions performed on 47 eclamptic patients, delivered by operative procedures, was too high an incidence. It was evident that many deaths due to postpartum hemorrhage, following versions and forceps deliveries, were due to trauma.

Recommendations by the Committee

This report indicates that the majority of the puerperal deaths were due to controllable causes. The Committee believes that the causes cannot be controlled without first analyzing and studying the mistakes already made. It is necessary that the medical profession must know the facts; then, it must inform the public of the potential dangers associated with the process of reproduction. The physicians are responsible for leadership in both the medical and community programs for such control. The public must be informed.

In order to meet the situation, it is necessary to bring about changes in the attitude of both the public and the medical profession of this state. The science of obstetrics must be placed upon a higher plane.

To the Medical Profession

In order that more accurate information may be obtained relative to maternal mortality, it is necessary that puerperal death certificates should be carefully filled out, stating both the contributory and immediate causes of death. An annual study of the deaths should be made and reported to both the profession and the public. Local medical organizations would benefit from a round table discussion of mortalities in their immediate communities. The study of Maternal Mortality should be divorced from that of Infant Mortality.

The importance of adequate prenatal care must be impressed upon the public by informing it that the high mortality in obstetrical care is due largely to controllable causes. Physicians must be both willing and able to render these services. The public must be informed of what constitutes adequate prenatal care. It is recommended that each com-

munity establish centers to render prenatal care to indigent pregnant women.

Physicians throughout the state should avail themselves of every opportunity to increase their knowledge of the fundamentals and the advancements in the field of obstetrics by attending post graduate courses. In this state, these courses are brought to them, yet many do not attend. It has been found that the clinics are usually attended by the better physicians of the community, while those who could best be benefited usually stay away.

It is recommended that physicians interested in obstetrics give particular attention to the importance of good aseptic technic during normal delivery; the dangers of pituitrin during labor; the dangers of operative interference, both from a fetal and maternal standpoint and the value of a properly selected anesthetic. The profession must remember that a toxic patient is a poor subject for operative delivery. Cesarean section has a very limited place in the treatment of toxic patients. Many times in this study, it was found that the treatment of pathologic complications was the cause of death, rather than the pathology itself. A standard conservative treatment for eclampsia should be studied and practiced. Too many fulminating toxemias have been treated expectantly or otherwise not recognized. The signs and symptoms of toxemia complicating pregnancy must be studied and the knowledge applied, otherwise eclampsia will continue to be responsible for a large percentage of the future mortalities in this state.

The value of fluids and blood transfusions, when available, in the treatment of shock must be emphasized.

The dangers of intrauterine instrumentation of incomplete septic abortions must be stressed.

Obstetrical care rendered by others than physicians should be directly under the supervision of the medical profession or its agencies.

To the Public

The public should be made conscious of the importance of the problem of maternal welfare. It should be taught the nature and importance of danger signals in pregnancy, especially those of toxemia and placenta previa.

Women must be taught to select a competent attendant early in pregnancy and to cooperate with him throughout pregnancy, labor and the puerperium.

The dangers of abortion, whether spontaneous or criminally induced, must be stressed.

Every community should realize that it is responsible for its indigent pregnant women and should supply adequate care to them during pregnancy. It is the duty of the medical profession to aid these unfortunates, but it cannot shoulder the responsibility alone.

There is a need, too, for informing and educating the public that obstetrical care should be remunerated sufficiently to encourage an attendant to render his best professional efforts to his patient. Too often, maternity care is an undesired part of the practice of medicine, because of its hardships and inadequate compensation.

Continuation of the Study

In view of the increasing interest in maternal mortality, both from a state and national standpoint, the Committee feels that the study should be continued each year in the future.

Your present Committee, with the permission of the president, has affiliated with the American Committee for the study of Maternal Mortality, and has made tentative plans for a survey during the year 1935 and 1936. If the plan is successful the survey will be up to date, rather than delayed 12 to 24 months after the death has occurred.

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THE RESPONSIBILITY OF THE GENERAL PRACTITIONER IN DISEASES OF THE EYE*

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I have two reasons for presenting this paper. First, I wish to emphasize some of the conditions, general and physical, not directly related to the eye, that will help in the recognition and diagnosis of the patient's ailment. Second: I wish to describe the proper treatment of the eye patient when he first comes under your care.

We are all aware of how much public health measures have played in preventive medicine and I wish to show how the conservation of sight and the treatment of injuries can best be obtained.

Sight conservation begins before birth; therefore, every pregnant woman owes it to herself and the child to have a Wassermann test made, not only as a means to maintain general health, but to prevent an interstitial keratitis in the offspring which nearly always leaves some serious defect of vision.

The laws of our state provide for eye attention of the baby at birth with 1 per cent silver nitrate. I believe it is a grave error to use the milder silver salts in place of the nitrate, and it is also against the law. A large number of births are presided over by midwives. The proper instruction of these women and rigid supervision to see that the law is complied with will help to reduce the dreaded calamity of ophthalmia neonatorum. Recent statistics show that in 1908, when the National Society for Prevention of Blindness was organized, 26.5 per cent of children entering schools for the blind owed their misfortune to ophthalmia neonatorum. Seven years later this percentage had been reduced to 15.1 per cent, and today it is only 7 per cent. Each of us should do our part to further reduce this percentage.

The question of proper lighting in the home and office is a vital one, and it is a part of our duty to see that our patients work and study under adequate lighting fa-

cilities. It is much better to prevent eye defects than to try to correct them after they are once established and it is important for the practitioner to lay stress against prolonged and excessive use of the eyes in close work. This applies to adults and children alike. Ambitious parents should be cautioned against forcing a child to do too much studying. The necessity of following a sensible course in use of the eyes is borne out by statistics compiled by Siggel, who, after examining the eyes of 1,600 prospective soldiers for the British army, found that in men educated in village schools defective vision existed in 2 per cent. Among laborers and town porters there were cases of poor vision in approximately 4 per cent. Tradesmen, clerks, compositors showed 44 per cent; and university students reached the startling level of from 58 to 65 per cent.

The problem of correction of crossed eyes needs to be revised and brought up to date. Whereas the parents were formerly told to wait that Mary would outgrow this condition and not to operate before ten years of age, it has been proven that we should not take a passive attitude, but that careful refractions, under atropine, should be begun at about two years and fusion exercises started at the age of three to four years. An operation should be performed in a reasonable time, if the above measures have not completely straightened the eyes.

You practitioners in the small towns and rural communities have to cope with the problem of the examination of school children and you should see that the children there have the benefit of an eye test as is given in the city schools. This test can easily be made by a school nurse or teacher in a short time, and yields much valuable information. When a school child complains of headaches, or is nervous, after studying or cannot see the blackboard clearly, this child deserves the benefit of a careful check-up by an eye physician. I had one little patient who had been at the foot of the class and was extremely nervous who, under proper eye care, was enabled to lead her class, and with a complete disappearance of her nervous symptoms in a few months time. I can multiply this example by the score, but believe the above is

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sufficient to direct your attention to this problem.

The question of whether a patient should see an eye specialist or be sent to the department store optician or advertising charlatan is adequately covered by the report of the Committee on the Cost of Medical Care, which conducted a survey to determine the frequency of eye refractions. The following facts were shown as prepared by Collins, who showed that 82 per cent of the patients examined by eye physicians procured lenses, while 93 per cent of the patients examined by optometrists bought lenses. The optician is primarily interested in selling lenses, not in finding diseased conditions of the eye.

In acute infections, as in pink eye, this condition should not be treated lightly for there is always a chance that a corneal ulcer might develop. I do not mean that every patient should be sent to the oculist at once, but if he does not show prompt response to treatment he should be taken to the eye man. A mild iritis is frequently confused with conjunctivitis by one who sees these things infrequently and often much valuable time is lost and serious damage done before the correct diagnosis is made. If any case of conjunctivitis does not respond to the usual treatment in three days, the patient should be seen by an eye specialist to rule out any serious complication. I have a patient now who has permanent disfigurement of the pupil because he thought he had pink eye and waited a week before seeking medical advice.

In removing foreign bodies from the cornea, have the best light possible and remember good anesthesia makes a good patient, and always see that the eye is bandaged when the epithelial surface is broken. The corneal epithelium regenerates rapidly and it is much better for the patient to wear an eye patch for a day or two rather than leave a raw, sensitive surface open to infection, with possible disastrous results.

Some of the general practitioners to whom I have talked have been in the habit of using solutions of too great strength in the eye. In dealing with this delicate structure, it is easy to keep up an inflammation through the use of strong solutions. I will take this opportunity to sound a note of warning against

the promiscuous and prolonged use of argyrol and neo-silvol in infections of the eye. There have been several reports in the journals dealing with the problem of argyrosis. The use of these salts should never be continued longer than four weeks.

When there is a penetrating wound of the globe, the eye should be carefully washed with boric acid, atropine 1 per cent and an antiseptic of one of the mild silver salts, or 1 per cent mercurochrome, should be instilled. The eye should be bandaged and the patient seen by a specialist as early as possible. Whenever there is any suspicion that a piece of metal might have entered the eye in an accident, an x-ray of the orbit should be made without fail and as soon as practicable, not only to save ourselves possible embarrassment, but the chance of its removal is facilitated and the possibility of severe inflammation of the globe is lessened.

Glaucoma simplex is like a thief in the night, often causing almost complete blindness without any pain or redness of the eye. In old people, who complain of failing vision or haloes, make sure through a thorough examination by an oculist that their disability is an increasing opacity of the lens and not one of the many other causes that could be destroying the sight. Tragedy too often follows the policy of watchful waiting for the cataract to develop when an examination has not been made to account for the failing vision.

Pterygia are an insidious menace to vision, for in their slow growth the patient neglects their removal until it reaches the center of the cornea where removal at this time always leaves a scar and impaired sight. We should urge their early removal.

Trachoma is endemic in certain sections of our state. It can only be controlled and eventually stamped out through constant vigilance and treatment. As a part of the school examinations already mentioned, the lids of all students should be inspected and any child with follicles of the conjunctiva should be questioned closely for possible contact and, where there is any doubt, referred to a physician experienced in trachoma.

Headache is a subject so broad that it is worthy of an independent discussion. I shall

merely mention that afternoon headaches, or those coming on after close work, or other application of the eye, should make us suspicious of eye trouble. There are exceptions to the rule, but the above is a safe criterion to follow.

Presbyopia, or old sight, comes to all of us in the early forties. People who lead a sedentary life generally notice it before those who work out-of-doors or those who do close work. Many of your patients in this age group will be relieved of some of their nervousness and irritability when proper attention has been given to alleviate their eye strain.

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THE TREATMENT OF VARICOSE VEINS AND ULCERS*

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Since Linser¹ started treating varicose veins with bichloride of mercury in 1911 the injection method of treatment has steadily gained in popularity. At first it was thought that anyone who could perform a vein puncture could treat varicose veins satisfactorily. However, treatment by injection without due regard for the indications and contraindications has given poor results and brought disrepute to the method. The sclerosing method of treating varicose veins is of great value, but to secure the best results each case must be studied carefully and one or all of the different methods of therapy must be used in accordance with the indications in each case.

There is no definite agreement as to the etiologic factor or factors in the production of varicose veins. Most investigators believe that a hereditary tendency supplemented by pressure is the most frequent cause of varicose veins. A review of the normal physiology of the venous return from the lower extremities is helpful in understanding the pathology in these cases. In the erect position, the heart beat and the arterial pressure have almost nothing to do with the venous circulation in the lower extremity. The enormous area of the capillary bed slows the blood current in

the capillaries down to the point where there is scarcely any pressure at all. The pumping action of the muscles as they compress the veins, which are equipped with valves to prevent backflow, is the propulsive force behind the venous return from the lower extremities. The vein, with its frequent valves, is really a series of chambers, each one of which as it is compressed by the muscles empties into the one above. The normal flow of blood in the veins is maintained by the pumping action of the muscles and the negative pressure in the thorax. Anything which cripples the pump, such as incompetence of the venous valves immobilization, injury to the muscles, etc., cripples the venous return from the extremity, unless the leg is elevated to the level of the heart.

The superficial veins have no muscular support. They have numerous communicating veins with valves so placed that blood can flow from the superficial to the deep veins. When the venous pressure in the saphenous veins rises above that in the deep veins, blood flows freely into the deep system where the muscular activity pumps it upward. This acts as a safety valve against excessive pressure in the saphenous system as long as the valves are competent. Increased abdominal pressure is transmitted to the abdominal veins and the lower extremities as they enter the abdomen. The abdominal veins have no valves, and this pressure can not only pump the blood on into the thorax, but also forces it back against the valves in the veins of the thigh. During violent abdominal straining the thigh muscles are contracted which protects the deep veins, but the valves of the saphenous veins have been shown to give way at pressure of about 180 mm. which is not unusually high for the abdominal pressure during violent muscular work. As the upper valves give way, more pressure is transmitted to those below, and the whole superficial system of veins become wide open channels. The pathology which results from this venous back pressure on the capillary circulation is extensive. The early and almost constant sign is the pigmentation which results from the increased capillary permeability and diapedesis of red blood cells. Pigmentation is diagnostic of impaired nu-

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trition from varicose veins. When ulceration occurs, infection and cellulitis becomes important. As the result of infection and cellulitis blocking of the lymph channels occurs, and then large areas of the leg become very hard, swollen and painful. In addition to the venous stasis, repeated infection results in lymph blockage and elephantiasis develops. There is a local obstruction of the lymphatics in areas of infection. The progressive fibrosis of the subcutaneous tissue still further destroys the lymphatic circulation, and finally the whole subcutaneous tissue is deprived of lymphatic as well as the normal venous drainage.

The above conditions are the late results of simple surface varicose veins, but there is also a group of cases where the deep veins have been damaged by phlebitis or phlegmasia alba dolens. The late difficulty of these veins is not a diminution of the capacity of the veins but incompetence of the valves. As soon as these valves are weakened there is nothing to prevent a reverse flow of blood in the dependent leg until the pressure is high enough to lift the column of blood to the heart, a pressure above the normal working pressure of the capillaries. These cases have the same difficulty as the superficial varices, but the disease is not limited to the subcutaneous tissue. Some of the cases have surface varices. Pennoyer² believes they are usually not compensatory but true varices which are the result of high venous pressure. It is safe to obliterate them if they have a positive Trendelenburg, but the patient receives very little benefit. These cases are discouraging to treat because it is impossible to restore the deep venous circulation.

Contraindications to the injection treatment are:

- A. Systemic diseases: Angina pectoris, hyperthyroidism, active tuberculosis, acute colds and infectious blood conditions.
- B. Local Conditions:
 1. Impairment of arterial circulation.
 2. Lack of patency of deep veins.
 3. Acute or subsiding superficial phlebitis.

Any attempt to proceed with treatment without the knowledge of the Trendelen-

burg status of a patient can lead only to poor results and recurrences.

The Trendelenburg Test:—Berntsen³ classifies the phenomenon into four groups:

(a) Trendelenburg positive when the reverse flow from the deep veins takes place at the sapheno-femoral junction, or through one of the large communicating veins in the thigh.

(b) Trendelenburg negative when the back flow from the deep veins takes place through the incompetent communicating veins in the leg while the valves in the internal saphenous in the thigh are competent.

(c) Trendelenburg nil. In this group there is neither a reverse flow through the sapheno-femoral junction nor through the communicating veins in the leg. The veins in this group have dilated walls but the valve edges coapt and are competent, thus preventing backflow. This phenomenon represents an early stage in the development of varicose veins with dilatation of the vein walls in the presence of competent valves.

Cooper⁴ elicits the Trendelenburg sign as follows: The patient is recumbent and the limb is elevated to empty the veins. A series of tourniquets are applied from knee to groin at intervals of 3 inches with sufficient pressure to block the saphenous. The patient then stands on a platform. If the varices in the leg are large and yet fill very slowly, one may be certain there is no backflow from the deep veins in the leg. With the patient still standing the tourniquets are removed, one at a time, from below upward. If the veins below any tourniquet remain collapsed the reverse flow must take place at some point above. If the veins remain collapsed to the highest tourniquet the only source of reverse flow must be from the femoral vein at the sapheno-femoral junction. This phenomena is classed as Trendelenburg positive. If the veins fill suddenly and under great tension when the patient stands with the tourniquet on, it is classed as Trendelenburg negative. Trendelenburg double is when both positive and negative tests exist.

My method of demonstrating the Trendelenburg phenomenon is simple and satisfactory. The patient is recumbent and the limb to be examined is elevated above the body, causing the veins to empty and collapse. With

the limb elevated the patient is instructed to cough or strain. If the valve at the sapheno-femoral junction is incompetent the vein can be seen to fill for several inches even when the limb is elevated. The patient is told to relax and the vein empties again. The increased intra-abdominal pressure is so great that it forces the blood from the external iliac into the saphenous even when the limb is elevated. The Trendelenburg negative or nil is ascertained in the usual way.

Perthes test is used to determine the patency of the deep veins. The saphenous vein is compressed by applying a tourniquet around the thigh with patient standing. Vigorous muscular exercise should diminish the size of the dilatations as the blood will flow into the deep veins and be carried to the heart. Sudden release of the tourniquet with filling from above will demonstrate the amount of blood aspirated into the deep veins. I have never seen a patient with obstructed deep veins. Two of my patients have had both deep artery and deep veins severed by gunshot wounds but the deep circulation was patent.

Indications for Ligation: A positive Trendelenburg test is an indication for ligation of the internal saphenous at the sapheno-femoral junction. If injection is done without ligation the back pressure will canalize the thrombus. In a doubly positive Trendelenburg test, injection treatment without ligation is only temporarily successful. This group requires radical excision. However, Cooper's⁴ method of locating the communicating veins with incompetent valves, ligating those veins and injecting the remaining dilated veins will probably be successful.

Choice of Sclerosing Solution: The recent literature on sclerosing solutions is replete with the advantages and disadvantages of each agent. I have used 20 per cent sodium chloride, 50 per cent dextrose, 30 per cent sodium chloride and 50 per cent dextrose combined, 50-75 per cent invert sugar, 40 per cent sodium salicylate, 10 per cent quinine with urethane and 5 per cent sodium morrhuate. I used 40 per cent sodium salicylate at the Emory University Varicose Vein Clinic for five years. It was prompt and lasting in its action, but caused severe cramps

and there was great danger of a slough, even when a small amount leaked out into the tissues, so I discontinued its use three years ago. For the past three years I have used 5 per cent sodium morrhuate with benzyl alcohol exclusive of all others. It is non-toxic, rapid in action and there is only slight danger of a slough.

Four patients have had allergic skin reactions from sodium morrhuate. None was severe. A skin test beforehand would probably be advisable.

Technic of Injection: The patient should be in the horizontal position when feasible. Use a 25 or 26 gauge needle with a short bevel. Never inject unless blood can be aspirated into the syringe. Aspirate only a few drops of blood; do not mix blood with solution, strip veins before injecting and have assistant press index finger of each hand above and below needle. Inject slowly 1-3 cc. of sodium morrhuate, depending on the size of the vein to be injected. Do not withdraw needle for one minute. Apply a pledget of cotton over site of injection and a strip of adhesive to hold cotton. The patient should continue daily routine. Reinject every second or third day. Apply bandage from toes to knee. The leg should be bandaged for three weeks after the last injection has been made.

If there is intense burning and blanching of skin at site of injection, some of the solution has been injected into the tissue. Inject immediately 5 cc. of the patient's blood into blanched area.

Treatment of Varicose Ulcers: Inject the veins with sodium morrhuate. Apply a wide strip of adhesive, covering the ulcer completely. Do not let the adhesive encircle the leg for it may obstruct the circulation. An Unna's paste boot is applied from the base of the toes to the knee. The boot should be applied firmly and smoothly if satisfactory results are to be obtained. A poorly fitting boot is worse than none at all. The average ulcer will heal in four weeks. With this method of treatment there are no excessive granulations, the epithelium grows rapidly beneath the adhesive and it is seldom necessary to do a skin graft. Ulcers that do not heal with this method of treatment should be excised

with underlying fascia and Thiersch grafts placed on the muscles beneath, according to Homan's⁵ method.

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THE TREND OF MEDICAL EDUCATION*

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An understanding of the trends of medical education today requires a consideration of the history of schools, their objectives, their activating motives and their *modus operandi*. Time will permit only a brief review.

In the past almost every form of procedure common to education in general has been applied to medical education: self education through reading, preceptorship by observing the doctor at work, didactic instruction in the form of lectures, textbook quiz systems, and the truer form of apprenticeship in which the student 'learns by doing.' To some extent all of these systems have always been and are now in use; the form of medical education has varied chiefly in the proportion in which these procedures have been applied.

In the earliest form of medical education the student received his training by accompanying the doctor in his work to see how and what he practiced; added was some instruction in the form of conversations with the doctor and what the student could gain for himself by reading in the doctor's scant library. Such education was attempted on the basis of the friendship of the doctor for the student or on his personal interest in him. In our present medical schools it may seem impossible that such a meager form of instruction could produce satisfactory results. It becomes more reasonable, however, when we recognize the very limited amount of in-

formation available at that time and the very close relationship between the pupil and the doctor.

The first advance from this single instructor form of education occurred when a group of individuals banded together to form a "school," usually under the dominant leadership of one or two. With this began the division of subject matter into courses, a division which in the effort to parallel specialism in practice has served to present the greatest problem of medical education: how to meet the demands for time in the curriculum necessary to satisfy the claims of the many subdivisions of medicine and of surgery, to say nothing of the almost unbelievable development of what we now term the pre-clinical subjects—the fundamental medical sciences.

But to return for a moment to the question of activating motive. I believe that in the case of the individual student-individual teacher we can assign as motive the inherent human desire to pass on the things one possesses. Certainly there was little else for the teacher to gain save this satisfaction. The same motive probably played an important role in the formation of the first medical schools. To this undoubtedly were soon added the incentives of profit and prestige. Even as the various forms of medical education contributed to the development and present trend of schools, so the three motives which at one time or another have prompted medical education continue to have their share in this development. Fortunately for our students today and for the public as well, the most frequent motive activating teachers of medicine is the desire to help others to acquire that which has been so difficult for them to attain. And I believe it to be generally true that whatever motive may have led one to medical teaching, that motive is soon replaced by the desire to help. By the same token, whatever motives prompt the student to enter medical school, these motives must ultimately be sublimated into the spirit of service; otherwise his professional life will be a failure no matter what the appearance of success in its achievement of honor and of material things.

What then can be said of the story of the

*Read before the Medical Association of Georgia, Atlanta, May 8, 1935.

objectives of the medical school? It is true of all effort, that in the beginning it strives for a single objective or product. In the case of medical education it was to prepare the practitioner of medicine, all medicine, for everything that was known or written could be included in fewer tomes than are now concerned with the anatomy and the diseases of the middle ear. The medical school almost at once became occupied with other tasks: more careful and minute study of fundamental structure and function, pathology which embraced deviation from normal structure and function, and observations of the clinical manifestation of disease and the pathologic significance of clinical signs and symptoms. So rapid was the development of both factual and presumptive knowledge of medicine that it drew to its schools thousands seeking the opportunities for service or the possibilities for reward held out by the practice of medicine. To meet this educational demand there developed many medical schools whose formation and operation were prompted by varying mixtures of the motives of service, prestige, and pure monetary gain. Chaos was the inevitable result. The wide divergence of motive, objectives, and procedures characterizing the many medical schools characterized also the students which were their product and left still visible effects on the practice of medicine itself.

Ultimately the necessity for taking stock became evident. In 1909, an inspection and analysis of all American medical schools was undertaken by the Carnegie Institute for the Advancement of Teaching and the Committee on Medical Education of the American Medical Association. Certain standards were established, indicating required faculty organization, equipment, clinical facilities, and the content and extent of courses of instruction. As a result, some schools closed, some merged forces and some sought the financial and pedagogic refuge of university affiliation, while all of them set about putting their houses in order, reorganizing the faculty, reshaping curricula, augmenting equipment, realigning clinical facilities and strengthening entrance requirements. I have made this brief review of the history of medical education because it forms the background for present trends. The factor which has imposed the

greatest problem on the present day medical school is the rapid and voluminous development of medical science in general and special fields. The great question is how much to teach and how best to teach it. In the pre-clinical branches of anatomy, biochemistry, physiology, and pathology, the question has been temporarily set aside for full-time departmental faculties to which students are assigned for a certain number of hours, allowing the department head more or less "academic freedom" in the content of his course and the manner in which it is presented.

In the administration of a preclinical department it must constantly be borne in mind that the mass of material forming the fundamental science concerned is of such extent and volume that its complete mastery by the student is an impossibility. In the department head and his associates, therefore, resolves the responsibility of sifting out for presentation those facts and principles which are basic to the fuller understanding of the subject, the indication of conclusions which may be correctly or incorrectly drawn from the basic facts, the lines upon which investigation and speculation may be directed, and the development in the student of the ability to determine the logic and soundness of ideas presented to him and to realize some useful relationship between the subject and his future work in the practice of medicine. There is not sufficient time for the student to memorize all minutiae, nor is there reason for it. Neither is there time for the teacher to participate in individual persiflage, nor the fixation of ideas which should be left sufficiently plastic to adjust themselves to changing viewpoints and developments.

What has been said of the preclinical departments applies with equal importance to teaching in the clinical years. As it is not the purpose during the first two years to make anatomists, chemists, or physiologists of students, so in the clinical years it is not the purpose to make of them surgeons, internists, obstetricians, pediatricians, or other specialists. Rather it should be the intention to bring them to see disease as manifestations of disturbed structure and function, at the same time training them to observe carefully and to analyze and correlate the information they thus obtain.

We come to the trend of the curriculum. The organization of all teaching problems into courses included in the four medical school years has become an arduous task. As if this were not enough, deans are constantly receiving questionnaires asking whether this or that is taught in a separate course—syphilis, gonorrhea, gastro-enterology, tuberculosis, ethics, history, sanitation, occupational diseases, and countless other subjects; and if so, who teaches it. How many hours are devoted? In what year or years is it taught? How is it taught? What is to be the answer to this growing problem? It seems there is but one course to follow: to reconstruct the preclinical years, with probably some reduction in the hours allowed for the fundamental sciences, to advance clinical teaching into the sophomore year and to some extent into the freshman year, to focus attention in the clinical years to the more salient facts and fundamental principles—those which are manifested in the signs and symptoms of disease presented by patients as the expression of disturbed structure and function, together with a consideration of the therapeutic measures appropriate thereto, the avenues of prevention, and the personal and social aspects.

Concerning the first of these—reduction of hours in fundamental sciences—much has already been done. It is probable that greater changes will be made in this direction. There is at present wide variation in the time allotted to these subjects. If the minimum now allowed by any school is sufficient, much time could be saved by adopting the minimum as represented in every subject. To be effective such a change will require the fullest understanding and sympathy of the preclinical department heads, for it will necessitate a more careful evaluation and selection of material presented to the student or else a change of teaching methods to meet the reduced time.

Advances have already been made in the movement of clinical instruction into the preclinical years. Courses in obstetrics, surgery, minor surgery and bandaging, medicine, psychiatry, clinical laboratory diagnosis, physical diagnosis are now part of the sophomore curriculum. Much other work could be moved advantageously to the early years of the medical school. Such early introductory clinical courses, in addition to saving time in the later

years, serve to begin the early formation of clinical ideas and to associate these ideas more closely with the fundamental sciences the student is then studying. They also facilitate the development of the broader clinical training which the complex study of disease now requires.

The second remarkable trend which will undoubtedly continue to affect medical education is that of individual and small group instruction at the bedside of the patient in wards and clinics. This is a return to the early preceptorial system with the addition of a previous study of the patient by the student. The business of this exercise is to allow the student to demonstrate what he has found out about the patient, letting this be the basis for a conversational discussion in which the instructor participates. This is quite different from the old clinic in which the teacher "demonstrated" the patient (and himself).

The third trend is also related to teaching methods. It is a return to the consideration as a whole of the problem of the patient. It includes the entire aspect, not only of his immediate symptomatology and diagnosis, but their relation to his personality, occupation, home life, religious and financial status, and to his place as a unit of society. I said return to this because it was the early approach, from which we strayed widely as interest and investigation in organology made itself felt. Illustrative of this broader approach are the psycho-medical, psycho-surgical, psycho-obstetrical, the medico-surgical group conferences which are assuming more importance in student instruction.

Concerning the objectives of the medical school, the trend so far as its students are concerned, is to prepare them not for immediate practice, nor for immediate specialism, but to give them the necessary training which will enable them through one or more years of hospital service to complete and mature their medical education, learning through more concentrated observation, practice and study, how to utilize their diagnostic mental equipment and the therapeutic armamentarium at their disposal. So important is this hospital experience that many schools have instituted what is termed the "fifth" or "hospital internship" year, withholding the di-

ploma until evidence is presented of the satisfactory completion of a year's internship. There are advantages and disadvantages in this fifth or internship year. Its requirement is probably necessary in many of the metropolitan schools where instruction is noticeably impersonal. In other schools this requirement is not necessary, their students having recognized for themselves their own need of hospital experience. It is not probable that circumstances will justify the requirement of this fifth year before full recognition of graduation.

After the re-organization of medical schools resulting from the inspection and analysis of medical education in 1909, there followed a rather rigid standardization. More recently there has been a trend toward greater liberty in the construction of the medical curriculum, with wider variation in the hours devoted to the different subjects and in the time and method of their presentation. Elective courses are being offered, particularly in the specialties and minor divisions of major subjects, and in elementary research. Opportunities are being given for more intimate acquaintance with the fundamental medical sciences. There are also some authorized experiments in educational methods.

A re-inspection of all medical schools by the Association of American Medical Colleges and the Council on Medical Education of the American Medical Association is now in progress. This is the result of the feeling of these two organizations that schools should be inspected at regular intervals of from five to ten years.

The objectives of the present inspection are to determine with reference to each school.

1. Whether its organization and support justify its continuation in the work of medical education:

2. Whether it is attempting to teach more students than its facilities justify;

3. Whether it has faults or deficiencies which need recognition and adjustment.

At the same time there is being made an analysis of school organization, curriculum structure, and teaching procedures with the expectancy that this may result in worth while suggestions which may be utilized with profit to the school and its students.

Summary

1. Return to the preceptorial system of individual or very small group instruction.
2. Increase in clinical instruction given at the bedside of the patient or in the outpatient department and minimization of didactic or lecture methods.
3. More persistent study of disease as manifestations of disturbed (pathologic) structure and function, rather than as symptom complexes or individual disease entities.
4. Increasing emphasis on the preventive and social aspects of health and disease.
5. Study of the patient's problem as a whole from the standpoints, not only of his bodily ailment but of the mental, emotional, financial, religious, and social aspects.
6. Greater emphasis on the voluntary teaching of more experienced and capable clinicians.
7. The allotment of more time to the major clinical subjects of general medicine, general surgery, and obstetrics; the specialties being considered largely from the standpoint of their relation to systemic disease.
8. The introduction of clinical subjects in the first two years of the curriculum.
9. Preparation of the student not for immediate practice, but for further maturity through hospital experience.
10. Further study of the organization of medical schools, the structure of their curriculum, objectives of medical education, and the best pedagogic methods of achieving them.

MEDICAL ASSOCIATION OF GEORGIA

EIGHTY-SEVENTH ANNUAL SESSION—1936

The regular set dates for the eighty-seventh annual session of the Medical Association of Georgia were May 12, 13, 14, 15, 1935. However, the American Medical Association set the dates of May 11, 12, 13, 14, 15, 1936, for its eighty-seventh annual session. Therefore, the dates conflict. As directed by the Constitution and By-Laws of the Medical Association of Georgia, the Council of our Association, changed the dates for our next annual session to April 21, 22, 23, 24, 1936. Savannah was selected as the next meeting place.

USE OF DIGITALIS IN GENERAL PRACTICE*

Its Action, Indications and Limitations

ALEX R. FREEMAN, M.D.

Albany

The dramatic response of a failing heart to digitalis is one of the most impressive things to be seen in the practice of medicine, yet there are few of the common drugs used at times with so little thought. For this reason I wish to review for you the action of this noble drug and say a few words about its use.

Digitalis is first fixed in the heart muscle and the amount that will be fixed is dependent on three factors. First, the concentration of the drug in the blood. The higher the concentration, the more will be fixed by the heart. Second, the bulk of the heart muscle. A hypertrophied heart will fix more of the drug than a small normal heart and the action dose for dose will be greater. Third, the speed of the blood flow through the heart muscle. When the flow is sluggish as in congestive heart failure, more of the drug will be fixed and greater will be the effect.

Once fixed, the drug produces its characteristic action: First, the tone of the muscle is increased so that the relaxation in diastole is not so complete and contraction is carried out with more force and more blood is thrown out with each contraction. Clinically, we find that the pulse is stronger. Second, the rate of impulse formation is slowed, conduction of the impulse in the heart is depressed, and diastole is prolonged so that more complete filling takes place. Clinically, we find that the pulse is slowed. Lastly, the muscle is rendered more irritable and contracts at slight provocation. Clinically, we find that extra systoles occur giving the impression at the wrist of dropped beats, or that the extra systoles are occurring with regularity causing a trigeminal or bigeminal pulse.

These are not all of the actions of digitalis, but they are the principal ones. The heart is slowed, the beats are strengthened,

the heart is more irritable; and these actions are greatest when the concentration of the drug in the blood is high, the heart hypertrophied, and the circulation slowed. Let us apply these facts.

It is unnecessary to review the signs and symptoms of heart failure. For the purpose of this discussion it is sufficient to point out that in all cases of congestive heart failure there are two outstanding findings, one or both of which are always present, namely enlargement of the heart, or an abnormally rapid rate, or both. If neither of these findings is present digitalis is never indicated (except in that rare condition, heart block). If both findings are present digitalis is always indicated. If one factor exists without the other a doubt may arise as to the advisability of digitalis and it is about this type of case that we will briefly speak.

Patients with a rapid rate but without hypertrophy.

When considering digitalis in this type of patient, the first question to be answered is whether the rapid rate is due to chronic myocardial disease. Among other things, the rapid rate may be due to tuberculosis, anemia, neurocirculatory asthenia, peripheral circulatory collapse, hyperthyroidism, or other endocrine disturbance. Digitalis is indicated here only when chronic myocardial disease is present and these cases without hypertrophy are rare. These are mostly patients with chronic coronary artery disease who have not had a major occlusion. A careful history and examination are necessary. These patients do not have hypertension or valvular lesions or cardiovascular syphilis. Often, the only history will be a sense of tightness behind the sternum on exertion; perhaps the only finding will be moderate vascular changes in the retinal vessels; the heart sounds are usually of poor quality; murmurs may or may not be present, most often not. The electrocardiogram is of the greatest help. The diagnosis is difficult. Digitalis when used should be administered with great care and repeated observation and the patient should be confined to bed during digitalization.

As stated above, patients of this class are not common and must be carefully separated

*Read before the Second District Medical Society, Pelham, April 12, 1935.

from those who have a rapid heart rate due to other causes. I have mentioned above some of the other causes. An example may help to impress this point. Here is a man of 32 with an intestinal obstruction. His breath is stercoraceous, he has the hippocratic facies, he is desperately ill. The extremities are cold and cyanotic, the blood pressure cannot be recorded. The pulse is 150 and thread-like. There is no history of previous heart disease and examination of the heart is negative except for the rapid rate. This man is dying from terminal circulatory failure, not from heart failure. Digitalis will not help this man. Similar in every respect are cases of shock and hemorrhage. The bulk of the heart muscle is small, the circulation through the heart is rapid, and there is insufficient time to build up the proper concentration in the blood.

Be slow to use digitalis in patients with a rapid heart but no hypertrophy. Patients whom it will help are rare.

Patients with hypertrophy but without a rapid rate.

These patients almost without exception have hypertension or significant valve damage. We must first consider what we mean by a rapid rate. Congestive heart failure usually makes its onset insidiously. Patients do not well remember the first little breathlessness, the beginning of the slight cough or wheezing, the first little puffiness of the ankles. And before these early signs, the pulse has been slowly creeping upward. The patient whose normal pulse may be 70, may show signs of failure with the pulse in the 80's, and since the limit of a normal pulse is so wide, we may attach no significance to a pulse of 86. At this stage there may be only a sense of fatigue, a vague feeling that all is not well. Careful evaluation of the pulse rate is necessary, for digitalis properly administered here may make a difference of months or years before failure.

However, what of the patient with cardiac enlargement in whom we know there is no increase in rate? Christian¹ has recently expressed the view clearly and forcibly that we should not wait for signs and symptoms of heart failure to occur before starting digitalis. In his clinic, it has been definitely

shown that digitalis reduces heart volume in both normal and damaged hearts, preventing further dilatation and hypertrophy.

Here is a patient whose heart is laboring under a crippling valve damage or against a marked hypertension. Hypertrophy is beginning; we see the heave of the apex against the chest wall, we feel the forceful throb, and we know in the richness of our experience that the day will come when this heart so strongly laboring will begin to fail. Christian says do not wait for failure; give digitalis now, give it in adequate dosage, and give it continuously throughout life.

As to administration, the tablet form of the powdered leaf is most reliable. If the patient is badly decompensated, three to eight 1½-grain tablets may be given at the first dose, then two tablets three times a day to effect. If the case is not so urgent the initial large dose may be omitted. As the heart slows and compensation is restored the maintenance dose must be established for each individual patient. One tablet a day is satisfactory for most patients. Some will require an extra tablet twice a week or one tablet one day and two the next. A few require two tablets daily. Toxic symptoms such as vomiting, diarrhea, showers of extra systoles, or pulsus bigeminus should be avoided.

The only important contraindication to digitalis aside from partial heart block and, in certain patients, the paroxysmal tachycardias, is coronary occlusion during the early days following the disaster. One of the causes of death following coronary occlusion is the advent of ventricular fibrillation; digitalis by increasing cardiac irritability may set the stage for its development. It has been shown experimentally that tolerance for digitalis is reduced as much as 30 per cent following coronary occlusion². Ventricular fibrillation is a very real danger here and digitalis should never be used without good reason and careful thought.

We must remember finally that digitalis is well known to the layman and its indiscriminate use may create a most troublesome cardiac neurosis. In general, if we do not use so much of the drug, our respect for the drug will increase. When we think of heart disease we do not necessarily think of digi-

talís, but when we think of digitalis we should always think of chronic myocardial disease.

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PAINLESS REMOVAL OF WARTS AND MOLES

Report of Cases

MARIE M. KERSHAW, M.D.
Augusta

The following prescription has been used by me for a period of two years as an easy, painless method for removal of moles and warts:

64 per cent sodium hydroxide ounces six.
Camphor Gum, ounces one-half. Dissolve in a small quantity of ethyl alcohol.

Misce.

Let stand 24 hours in enamel ware vessel.
Ad

Sodium salicylate, ounces six. Borax pulverized, ounces three.

Misce.

Let stand 24 hours in enamel ware vessel.

Mix the two mixtures and shake at intervals over a period of 12 hours.

Ad

Boiling water—one pint. Let stand 24 hours.

Shake before using.

The caustic quality of the medicine is the agent found to be efficacious in the absolute removal of warts and naevi. The amount of the prescription used, and time it is allowed to remain on the growth, depend on the size and type mass to be removed. Usually a minute or a minute and one-half suffices. A cotton swab is saturated with the mixture and touched gently to the naevus, care being taken that none of the liquid contacts the surrounding tissue. The mole in many instances turns dark red and begins to look translucent. In other cases, the mole becomes black, and a gummy resinous exudate appears. This may be wiped away and a re-

application of medicine made. When the entire mole has been killed, the action of the drug is stopped with plain cold water. Several applications of water will relieve the slight stinging or burning sensation felt by the patient. There is no actual pain attached to the procedure, and the action of the drug although very quick and lethal to cells that it touches is completely obliterated by application of water.

In certain cases of warts where the area to be treated is brittle and tough, slight scarification hastens the action of the prescription.

In about two to three weeks after treatment the scab usually sloughs off leaving scarcely a trace. In cases where moles were known to be enlarging, the medicine has completely removed them and no regrowth has occurred.

Case Reports

CASE 1—H. T. White, male, aged 48, was treated January 14, 1934, for the removal of a congenital, large, dark brown colored naevus, located just to the right of the right nostril. It had not been increasing in size. The mole was 1 cm. wide and projected about 0.5 cm. from the face. The surface presented was perfectly smooth and several applications of the medicine were necessary to kill the entire growth. No pain was complained of during the process.

In three weeks a horny mass fell from the face, leaving a scarcely noticeable scar.

The naevus has not returned.

CASE 2.—P. B. White, female, aged 32, was seen on March 14, 1934. A large congenital naevus situated just over the coccyx had become irritated by the rubbing together of the gluteal cheeks, and bled slightly, thus causing the patient some anxiety. This mole was 1.5 cm. wide, appeared flat and was brown in color. Two applications of this medicine on different occasions were necessary to entirely kill the naevus. When the area healed, a faintly depressed area remained. No vestige of the mole has reappeared.

CASE 3—Mrs. W. W. White, female, aged 55 treated February, 1934, for the removal of a pediculated naevus situated in the mid-line, exactly two inches above the tip of the sternum. The mole had been present as long as the patient could remember, was dark brown in color, painless, and apparently stationary in size.

Touches of the above prescription turned the tissue black and a resinous exudate had to be constantly wiped away.

In three weeks, the patient returned and only a slight mark showed the place where the naevus had been.

(Continued on Page 310)

THE JOURNALOF THE
MEDICAL ASSOCIATION OF GEORGIA

Devoted to Welfare of the Medical Association of Georgia

478 Peachtree Street, N.E., Atlanta, Ga.

AUGUST, 1935

ANTERIOR POLIOMYELITIS

Anterior poliomyelitis is an important medical problem at this time, especially with an epidemic in nearby states. Recent studies have given much new information regarding its mode of invasion and spread through the nervous system, with a new interpretation of symptoms. Although serum treatment has been practically abandoned as useless, on the basis of experimental and clinical studies, there is much promise in preventive control through vaccination. This seems about to be achieved as a great triumph of medical research.

The etiology is a filterable virus invading the body apparently only by way of the olfactory nerves in the superior nasal meatus. The virus has been isolated from the nasopharynx and from the nervous system, but has not been found anywhere else in the body. In the nasopharynx, the virus usually disappears soon after the disease, but may persist longer: in these cases there may be a relapse which usually occurs within three months. Second attacks after many years are rare.

It has been almost impossible to trace the infection in any patient to contact with other active and fully developed cases. Transmission occurs chiefly through contact with healthy carriers or abortive cases through so-called droplet infection. The greatest susceptibility is in the first six years of life. From 70 to 95 per cent of urban adults possess specific antibodies against the virus in their blood serum, apparently due to previous contacts with subinfective doses of the virus. In these persons protection probably depends upon the presence of antibodies in the mucus overlying the olfactory mucosa.

The pathology is limited to the nervous system. The nerve cells show various types of degeneration, at times with cellular in-

clusions as in rabies. These nerve cell changes are considered to be primary, and not a result of the inflammatory changes (edema, hemorrhages and infiltration of leucocytes and lymphocytes). Many of the nerve cells may disappear. Outside the nervous system, the only common finding is hyperplasia of the lymphatic structures which may occur in any febrile disease.

Formerly it was thought that anterior poliomyelitis was a generalized infection in which paralysis was an accidental occurrence; that the nervous system was infected from the blood through invasion of the meninges and spinal fluid. The evidence against this is now convincing. The inability of investigators to find the virus in the spinal fluid, and the difficulty of infecting the nervous system through the blood stream, forced students to consider the nerves as the path of invasion. In 1933 Faber and Gebhardt traced the spread of the virus in the monkey after nasal instillation, finding it in the olfactory bulb on the 4th day, hypothalamus on the 5th day, thalamus and midbrain on the 6th day, and spinal cord on the 7th day. This distribution and spread of the virus can only be explained by transmission along the axones of the olfactory ganglion cells, since it follows the course of the olfactory pathways in the brain. They pointed out that the olfactory area is a unique site as a portal of infection, in that the hair-like endings of the olfactory ganglion cells are completely exposed such that the nervous system can be invaded directly without any injury to the mucosa.

Brodie and Elvidge, also Schultze and Gebhardt, in 1934, cut the olfactory nerves in monkeys, and poliomyelitis never developed in spite of repeated nasal instillation of the virus: all controls promptly developed the disease. Furthermore, they developed no immune bodies in the blood. Brodie later showed that the virus was transmitted by the axones of the nerves and not by the perineurial lymphatics.

With proof that the virus enters directly into the nervous system along the olfactory nerves, and spreads along the axones of nerve fibers in the central nervous system, a new interpretation of symptoms has followed.

The early symptoms point to involvement of the hypothalamus rather than a general infection. These symptoms are fever, disturbance in sleep, affective or emotional disorders, headache, gastro-intestinal disorders and marked sweating. Later symptoms referable to the posterior horns of the spinal cord and posterior root ganglia occur, such as localized pains and tenderness, painful spine and exaggerated reflexes. Finally a flaccid paralysis appears, due to involvement of the anterior horns of the spinal cord. In abortive cases the virus dies out, and the disease stops in the first or second stage.

In regard to treatment, much hope was placed in the use of serum of normal adults or of those who had had the disease, since the serum of many such individuals contains antibodies to the virus. If given early it was hoped that paralysis could be prevented. However, Harmon pointed out that 71 per cent of the patients do not develop paralysis even if untreated. As a result of the reports of Kramer and Aycock, Park and Fischer, showing no difference in the course of the disease in those treated before paralysis and those untreated, serum treatment has been practically abandoned. Experimentally, Brodie found that large amounts of serum given after inoculation with the virus were useless. With the conception that the virus is fixed in the nerve cells from the beginning it is concluded that serum can be of no value unless given shortly before exposure to the disease.

The problem of prevention is of greatest importance. It was early believed that passive immunity might be produced by the administration of adult or convalescent serum during an epidemic. This question requires further investigation but efforts of this kind have not been encouraging. The production of active immunity now seems possible. Immunity develops rapidly, so that vaccination would be practical during an epidemic. Brodie has developed a vaccine consisting of living virus contained in the cord of an infected monkey, attenuated with formalin, and injected subcutaneously. Following injection, antiviral substances were demonstrated to be present 3 weeks later in 6 volunteers from his laboratory and in 12 children.

Kolmer, Klugh and Rule have developed a similar vaccine in which the virus is attenuated by sodium ricinoleate. After injection in 25 children 75 per cent of them later showed antiviral substances in the blood. Since a living virus is used, further study is indicated before general use. The results of vaccination in the region of the present epidemic will be awaited with extreme interest.

WM. A. SMITH, M.D.

ADVANCES IN MEDICAL SCIENCE DURING 1934

During 1934, medicine, surgery, and the allied medical sciences made notable advances. So important and numerous have been the contributions that it is not amiss to write this resume so that our members may be refreshed in mind as to the new remedies and principles evolved by our confreres. Indeed, the record is a gratifying one in that it demonstrates the great determination of medical men throughout the world to go forward in the conquest of disease, regardless of unfavorable conditions. Only a few of the important reports can be mentioned, but those are gleaned with admiration and praise. Our hearty congratulations go to men of science who have been a part to medical and surgical progress.

Psoriasis may yet be conquered through the work of Grutz and Burger of Bonn who noted the high lipoid content of psoriasis scales. The cholesterol is also highly increased in the blood, and a reduction of fat to 20 grams per day for adults has produced marked clinical improvement.

Doctor Fred D'Amour of Denver, Colorado, has presented his immune serum therapy in treating patients bitten by the black widow spider, which produces excellent therapeutic benefits to the patients.

A new antidote for mercurial poisoning, which seems to be specific, has been evolved by Dr. Rosenthal of the National Institute of Washington. The drug is sodium formaldehyde sulphoxylate and is given intravenously in 10 to 15 gram doses. Gastric lavage is also done and 200-300 cc. of the drug solution (5 per cent) is left within the patient's stomach.

Radiology has had its progress, too. Dur-

ing the year a 1,000,000 small volt x-ray machine was constructed which will equal the radiation of 350 grams of radium. It will be installed within the Soiland Clinic in Los Angeles, California. Also new short wave therapy is now used in treating furuncles, abscesses, sinus and joint diseases with enthusiastic success.

The pursuit of the conquest of cancer has not lagged during the year, but no great promise of cure has appeared on the therapeutic horizon. A study of cancer producing substances, like 2 benzopyrine and estrin which are similar in molecular composition to coal tar fractions, has disclosed the fact that when used on the skins of male mice, changes will occur in the prostates of these animals suggestive of early tumor formation. A more interesting discovery is the existence of anti-cancer bodies which have a lethal effect on cancer cells and not on normal cells. Assays of muscle tumors have also shown the presence of cortin and intermedin; and lipomas the presence of prolan. Adenomyomas and fibromyomas were found to contain large amounts of estrin.

Of particular interest is the result of the use of atabrine in treating several thousand cases of malaria by Dr. A. N. Kingsbury of the Institute of Medical Research of the Federated Malay States. He found that atabrine in some instances may cause a psychosis, and suggests that the dose of the drug be reduced to 0.2 gram daily. Among our own health departments, excellent work has been performed in the treatment of malaria by Dr. Seckinger, in which he has used atabrine extensively with good results.

General interest has been created over the reports of the so-called sterile period of women. Ogino and Knaus have evolved a law in reference to the menstrual cycle of evolution—the exact knowledge of which furnishes a simple normal method of contraception, and which requires no mechanical interference with intercourse. The churches are offering no opposition to this method.

Dr. John Kolmer of Philadelphia has again attracted the attention of the medical world with a contribution in which he feels that he has made a vaccine which will prevent infantile paralysis. He used sodium ri-

cinoleate emulsion of infected monkey spinal cords. After injection into the human, the blood will show the presence of antibodies. Dr. George Klugh, Jr., of Atlanta, one of our own boys, was associated in the work with Dr. Kolmer.

In physiology, Doctor Kendall reported his isolation of purification of crystalline cortin, the formula of which is not understood. Doctors Rowntree, Clark and Hanson have established the fact that growth and development is the result of balance between the thymus and pineal glands.

Georgia physicians have done excellent work. Dr. Glenville Giddings has received national recognition for his many interesting observations of sleep in normal children. Drs. Dan Elkin and J. L. Campbell have continued their surgical work on aneurysms and have more than one hundred illustrative drawings showing the types of aneurysms commonly found, and their methods of treatment. Drs. Roy Kracke and Francis Parker have continued their work in the etiology of agranulocytosis and are emphasizing the importance of the sulphhydryl radical in relationship to leukocytosis.

At the recent meeting of the *Medical Association of Georgia* several important research investigations were reported from the University of Georgia School of Medicine. Of particular importance was the transplantation of limbs on salamanders by Dr. Alva Stultz. Dr. Taylor Harper gave a summation of electrocardiographic studies in patients with syphilitic heart disease, in which the cardiograms demonstrated myocardial damage in more than 25 per cent of the patients. Dr. Lombard Kelly has continued his work on the glands of internal secretion, with particular reference to the hypophysis. J. C. N.

The JOURNAL would like to record the scientific work of Georgia doctors. It earnestly requests, therefore, that each physician in the State who publishes a contribution in some other medical periodical submit an abstract of the article for these columns.

The American Medical Association will hold its eighty-seventh annual session at Kansas City, Missouri, May 11, 12, 13, 14, 15, 1936.

WOMAN'S AUXILIARY

OFFICERS

President—Mrs. Ernest R. Harris, Winder.
 President-Elect—Mrs. Wm. R. Dancy, Savannah.
 First Vice-President—Mrs. Hulett H. Askew,
 Atlanta.
 Second Vice-President—Mrs. Warren A. Coleman,
 Eastman.
 Third Vice-President—Mrs. T. J. Ferrell,
 Waycross.
 Recording Secretary—Mrs. W. R. Garner,
 Gainesville.
 Corresponding Secretary—Mrs. S. T. Ross,
 Winder.
 Treasurer—Mrs. W. M. Cason, Sandersville.

Historian—Mrs. Marvin F. Haygood, Atlanta.
 Parliamentarian—Mrs. Ralph H. Cheney, Augusta.
Committee Chairmen
 Health Films—Mrs. A. J. Mooney, Statesboro.
 Student Loan Fund—Mrs. Benjamin Bashinski,
 Macon.
 Public Relations—Mrs. J. A. Redfearn, Albany.
 Press and Publicity—Mrs. J. Harry Rogers,
 Atlanta.
 Jane Todd Crawford Memorial—Mrs. Eustace A.
 Allen, Atlanta.
 Research in Romance of Medicine—Mrs. D. N.
 Thompson, Elberton.

ACTIVITIES

Despite the fact that the summer months are usually periods of inactivity, various units of the Woman's Auxiliary to the Medical Association of Georgia have been busily engaged with carrying on their work. District and county meetings have been held and members of the county societies have been entertained.

First District Meets

Mrs. Cleveland Thompson, of Millen, was elected President of Woman's Auxiliary to the First District Medical Society at the mid-summer meeting held July 18, at the Hotel DeSoto in Savannah. Other officers chosen to serve for the next year with Mrs. Thompson were Mrs. L. W. Williams, of Savannah, Vice-President; Mrs. W. E. Floyd, of Statesboro, Secretary-Treasurer, and Mrs. J. S. Howkins, Savannah, Parliamentarian.

The business session was followed by a luncheon at the Hotel DeSoto.

Dr. J. E. Paullin, of Atlanta, President of the Medical Association of Georgia, gave an interesting talk, featuring an economic survey of a generalized health program, telling of distinct types of disease and how to combat them. He stressed the need of helping rural sections to receive adequate medical care and told of the importance of prenatal care throughout the state, saying that 70 per cent of the deaths in maternity cases were due to lack of this care. He also talked of the importance of helping children who are mentally deficient.

Mrs. Ernest R. Harris, of Winder, President of the state Auxiliary, spoke of the Auxiliary having been organized to meet certain needs and to promote friendly relations between the doctors and their patients and a closer fellowship in the profession. She stressed the three minute talks on prevention and eradication of disease, which the Auxiliary will send to any organization on request. Mrs. Harris was presented a corsage by the hostess Auxiliary.

Mrs. W. R. Dancy, of Savannah, state President-Elect, talked on "Organization," giving an interesting account of the first Auxiliary organized at Augusta in 1924.

Mrs. L. W. Williams gave the Address of Welcome, mentioning a number of points of interest in the city and telling of the industries of Savannah.

Mrs. J. C. Metts and Mrs. A. A. Morrison, Jr., delegates to the convention of the Auxiliary to the American Medical Association, held in Atlantic City in June, gave comprehensive reports of the sessions and the attendant social activities. Mrs. J. Bonar White, of Atlanta, former state President, was elected first Vice-President of the Woman's Auxiliary to the American Medical Association.

The officers and chairmen of the standing committees gave excellent reports of their work.

Present at the meeting were Mrs. Ernest R. Harris, of Winder, President of the Woman's Auxiliary to the Medical Association of Georgia; Mrs. J. Wallace Daniel, of Claxton; Mrs. C. T. Brown, of Guyton; Mrs. C. Thompson, of Millen; Mrs. Q. A. Mulkey, of Millen; Mrs. H. L. Howard, of Springfield; Mrs. Ida Thorpe, Quarantine Station, Savannah; Mrs. J. L. Nevil, Candler county; Mrs. R. L. Cone, of Statesboro; Mrs. Philip Morgan of Guyton; Mrs. R. G. Brown, of Garfield; Mrs. E. C. Watkins, of Brooklet; Mrs. W. E. Floyd, of Statesboro; Mrs. L. G. Temple, of Statesboro; Mrs. C. W. Findley, of Vidalia.

Savannah members present were Mrs. Lee Howard, Mrs. E. N. Gleaton, Mrs. Hugo Johnson, Mrs. Charles Usher, Mrs. G. H. Lang, Mrs. J. S. Bolton, Mrs. C. G. Redmond, Mrs. E. C. Demmond, Mrs. L. W. Williams, Mrs. S. P. Sanford, Mrs. E. S. Osborne, Mrs. G. T. Olmstead, Mrs. A. A. Morrison, Jr., Mrs. R. V. Martin, Mrs. O. W. Schwalb, Mrs. Elliott Wilson, Mrs. W.

(Continued on Page 308)

GEORGIA DEPARTMENT OF PUBLIC HEALTHT. F. ABERCROMBIE, M.D., *Director***MALARIA CONTROL BY DRAINAGE**

The State Department of Health has on file many reports showing the value of drainage for malaria control. It is fortunate that often malaria drainage accomplishes a dual purpose, namely, public health improvement and agricultural rehabilitation.

Some interesting data have been recently presented to the State Department of Health in connection with a project involving drainage for malaria control showing a rather spectacular economical and agricultural accomplishment. A few years ago the State Department of Health was called upon to recommend malaria control measures for a large plantation in southern Georgia. The problem involved the drainage of a large pond comprising about seven hundred acres. Malaria was very prevalent in families of both tenant and plantation owners. It was believed that by eliminating this pond very valuable land could be made use of for agricultural purposes. Engineering personnel of the State Department of Health supervised the draining of this pond. It was estimated that the cost of draining amounted to approximately seventy-five cents per acre. It seems unnecessary to report the value of such a project for malaria control. Elimination of water areas producing malaria mosquitoes will, of course, eliminate the actual cause of malaria. No one can question the value of removing the cause. However, an additional demonstration resulted. We were informed a short time ago that the owner of this drained area had used it for a cattle pasture and recently sold cattle which brought a total of \$5,233.16. We assume that this could be accomplished every year. How is this for an investment?

When we consider the value of drainage for malaria control we must admit that it also rehabilitates the farmer so that his land yields a greater production per acre and increases the total value of his farm.

We could cite many demonstrations of malaria control by drainage. We have records of one town in a certain southern state where malaria was such a problem that industrial plants could not make a profit due to sickness among their employees. It is stated that due to malaria the population was very fluctuating. A physician in that locality stated that seventy-five per cent of the people had malaria during the summer which was followed by three years of equal or greater pre-

valence. It was stated that due to malaria fifty per cent of the population was transient and the mills were operating short-handed much of the time. An intensive malaria drainage program was initiated by health authorities. During October of one year two hundred persons were sick with malaria. Due to malaria drainage, the same month of the second year only one person was sick with malaria, and the same month of the third year there were no patients sick with malaria. The same can be said of *Anopheles* mosquito production for the three year period. During the first year the houses were found filled with malaria mosquitoes. During the second year only occasionally could a malaria mosquito be found in the houses, and during the third year only a few mosquitoes were found with no *Anopheles quadrimaculatus* (malaria mosquito).

There has been printed a letter from an official of one of the industrial plants in this town stating that due to malaria drainage the economic and social life of the community have been greatly improved and industrial profit has been increased many fold.

The average rural property owner who experiences malaria infection in his family should realize that often a few hours of labor will drain a small area which produces malaria mosquitoes. It is admitted that sometimes a drainage problem would be beyond his financial possibilities, but on the other hand it is often so simple and inexpensive that his profits by drainage would be multiplied by a great amount. Many rural property owners could accomplish by drainage as spectacular results as illustrated above by this industrial community. It is often that "a ditch in time will save quinine." Removing the cause of a disease is the fundamental principle in public health.

Fully realizing that elimination of water areas producing *Anopheles* mosquitoes will certainly prevent destruction of human life, the Georgia Department of Public Health, as well as every other state department of public health, has for years advocated elimination by drainage of mosquito producing areas. It is an established fact that the Panama Canal could not have been constructed if mosquito eradication had not been accomplished. The prime method of this accomplishment was elimination of mosquito producing areas by drainage. To minimize the value of drainage for malaria control is an admission that ma-

laria control cannot be attained. The most effective malaria control ever executed has been a combination of all known methods. Undoubtedly the two most effective methods for malaria control is the combination of drainage, in order to eliminate the cause of the disease, and the use of drugs to cure those who are infected and to prevent a human carrier from infecting the mosquito.

In many localities there may be a definite number of small ponds which produce all malaria mosquitoes in a given locality. By complete drainage of each of these areas malaria mosquito eradication can certainly be accomplished one hundred per cent. After this attainment, followed by clearing up all infection by the method of drugs, even should a malaria carrier come into a community there would be no malaria mosquitoes remaining to transmit the infection from one person to another, on the other hand, of course, without eradication of all malaria mosquitoes the administering of drugs would only clear up the infection within that given community and there would be no protection of the public should human carriers go into the community. The administering of drugs where drainage is not accomplished can only attain temporary sterilization of the patient. Considering such facts, there can be no more effective plan than, first, elimination of the cause of the disease by eradication of the insect, and second, sterilization of those persons with malaria infection. The Georgia Department of Public Health is definitely committed to the plan of malaria prevention by the combination of removing the cause and curing the disease.

Unfortunately, during the past few years when great efforts have been initiated for eradication of malaria mosquitoes by drainage, considerable criticism has been manifested in an intensive drainage program. Statements have been made that the intensive drainage program is reducing greatly the number of water fowls and destroying valuable fishing grounds. This is certainly not the case. The drainage program consists almost exclusively of draining small individual bodies of water, such as lime-sinks, which are conducive to neither water fowls nor fish, but which are highly conducive to the propagation of *Anopheles* mosquitoes. The second method is the improvement of streams so that flood waters will not remain adjacent to the small streams and rivers. This stream control method, if conducted to perfection, would mean millions of dollars to the state's agriculture by relieving productive bottom lands of residual flood waters. Such a drainage program is of inestimable value for protection of public health and for promotion of agriculture.

There has been considerable comment, verbal and written, that an intensive drainage program will in a short time greatly reduce our annual rainfall until the southern part of our state experiences severe drouths and dust storms such as has been experienced throughout the middle west during the past two years. When such rumors become prevalent it is difficult to convince the public otherwise. The Georgia Department of Public Health, of course, is a technical department, operating for the protection of the health of the public. The organization makes no claims as to authority on factors affecting climatic conditions. Although the department is convinced that such claims and assertions have no ethical basis, it seems that in order to refute such extravagant statements it is necessary to seek the opinions of other organizations well qualified to deal with the technique of weather and climatological conditions.

Influence of Drainage on Rainfall

In order to protect the value of our drainage program for malaria control we have selected certain excerpts from bulletins issued by the American Meteorological Society which deal fully and definitely with this problem. These excerpts represent opinions of those who have obtained the highest authoritative ratings in the field of meteorological and climatological research. These excerpts, taken from letters and bulletins of the American Meteorological Society, are quoted as follows:

"The action of nature has already gone far toward refuting the criticism which alleges that drainage is responsible for the recent deficiency in rainfall. During the past ten days the southern half of the state has had generous rainfall, too much in many places. Showers were of daily occurrence at Savannah for thirteen consecutive days, beginning with July 5, bringing farm work to a standstill in the vicinity. Heavy rains have extended northward beyond Augusta.

"There has been more or less lively discussion of the supposed effects of the work of man upon the amount of rainfall for generations. A great deal of such discussion and controversy has raged over the effects of extended removal of forests, the extension of cultivation in the West, the construction of dams impounding large reservoirs of water, as well as over the effects of swamp drainage, etc.

"It is important to understand that east central Georgia is the region of the smallest average rainfall in the State, which makes it subject to rather frequent periods of deficiency in rainfall. On the other hand, the region of heaviest average rainfall is the northeastern section, where the drainage of ponds is not a factor. The point is that the amount of rainfall is closely related to elevation in this part of the country, and shows little or no relation to anything else, since all parts of the state are near enough to the ocean and

the Gulf of Mexico to have abundant rainfall whether the proper atmospheric temperature contrasts and wind movements exist or whenever in warm weather vigorous conventional circulation occurs.

"Leading climatologists have long recognized that no action of man can produce any real appreciable effect upon the climate except under peculiarly exceptional circumstances. Various temporary trends in climate between one extreme and the other have been erroneously attributed to the action of man, even to the absurd point of blaming the radio development sometimes for too much rain and at other times for extreme drought. It is really just as absurd to blame the recent rainfall deficiency in east and south Georgia on pond drainage operation of the last few years, as these operations have produced no appreciable effect on the rainfall of any locality in or near Georgia and would not do so even if extended to the point of elimination of all the marshes and ponds in the state.

"Many theories are advanced as to the cause of the drought. That attracting most attention is the alleged drainage of small lakes, marshes, ponds, and the like. On its face this theory appears logical and convincing. It is argued that with the destruction of thousands of square miles of water surface there is obviously less moisture contributed to the atmosphere through evaporation, and, consequently, less to condense and precipitate as rain. However, this reasoning is superficial. Two fundamentals are necessary to produce rain. First, water must be gotten into the air by evaporation from moist surfaces and transpiration through the leaves of growing plants; and second, the invisible water vapor thus supplied must be condensed into liquid form as rain drops. The drainage theory as a cause of drought over-estimates the importance of the first phase of the problem. Many seem to think that all that is necessary to produce rain is to supply the air (more correctly speaking, space) with sufficient moisture. However, the second phase is by far the more important. In other words, there is nearly always enough moisture present in the atmosphere to produce rain in substantial amounts whenever the machinery of Nature's rain factory is operating in a manner to cause sufficient condensation. There is abundant evidence to substantiate this statement. For example, in western Arkansas, for the present year, April had above normal rainfall, but July had only 0.15 of an inch, or 4 per cent of normal, yet July actually had 86 per cent more atmospheric moisture than April, as shown by the humidity records made by the Weather Bureau at Fort Smith, a representative station. Obviously, the severe July drought in western Arkansas was not due to a lack of moisture in the atmosphere. Similar comparisons are at hand for the 1930 drought, and many other just as convincing examples might be given. However, this is sufficient to establish beyond doubt, the fact that the primary agency in producing rainfall is not local water surfaces, such as ponds, and the like, but, rather, the physical operations (air mass movements) through which the moisture present is condensed and made available as rainfall."

L. M. CLARKSON, *Chief,*
Division of Sanitary Engineering.

WOMAN'S AUXILIARY—DISTRICT MEETINGS

(Continued from Page 305)

R. Dancy, President-Elect of the Woman's Auxiliary to the Medical Association of Georgia: Mrs. M. K. King, Mrs. J. T. Burkhalter, Mrs. C. R. Riner, Mrs. J. C. Metts, Mrs. H. M. Kandel, Mrs. Rufus Graham, Mrs. William Shearouse, Mrs. W. V. Williams, Mrs. A. A. Morrison, Sr., Mrs. H. W. Hesse, Mrs. R. L. Neville, Mrs. Ralston Lattimore, Mrs. J. S. Howkins, Mrs. John Paul Jones and Mrs. J. R. Broderick.

Third District Meeting

The Third District Auxiliary met June 5 in Americus at the home of Dr. and Mrs. Prather, with Mrs. Herschel Smith, District Secretary, presiding.

Reports were given from Sumter, Dodge and Dooly counties.

Muscogee county was urged to organize an Auxiliary as this county contains such a large field for work.

An article by Mrs. E. R. Harris, of Winder, state President, on "Why Organize an Auxiliary?" was read and contained many timely suggestions.

Mrs. W. A. Coleman, of Eastman, and Mrs. E. B. Davis, of Byromville, gave excellent reports from the recent state meeting, held in Atlanta May 7-10.

A musical tea was enjoyed after the meeting, with ten guests present.

NEWS ITEMS

Dr. P. H. Askew, Nashville, announces that his son, Dr. P. H. Askew, Jr., will be associated with him in the practice of medicine.

Dr. M. B. Allen, Hoschton, read a paper at a recent meeting of the Jackson-Barrow Counties Medical Society written by Dr. J. T. Stovall, Jefferson, on *Pel-lagra*. The essayist was scheduled to read the paper but was prevented from doing so on account of professional duties.

Dr. Jos. H. Bradfield, Atlanta, Superintendent of the Battle Hill Sanatorium, was honored at the institution at an open house on July 5th which was the twentieth anniversary of his work as Superintendent. Atlanta officers present were: Mayor Jas. L. Key, Councilmen, C. W. Childs, Ed Deckner, J. T. Marler and R. H. Cobb; and Alderman Ellis A. Barrett. Councilman Childs said: "We want the public to see what a fine institution Battle Hill Sanatorium has become. It has been a sort of 'forgotten son' of the city, and we want to acquaint the public with the splendid work Dr. Bradfield and his associates have been doing. We are proud of his record. Our committee and others connected with the city government feel that they have been fully justified in having the utmost confidence in him."

Dr. L. P. Holmes, Augusta, was elected Superintendent pro tem of the University Hospital by the Board of Trustees at a recent meeting.

Dr. A. A. Morrison, Savannah, Alderman and Chairman of the Savannah Board of Health, made an address before a meeting of the Public Health Nurses at Savannah on July 5th.

Dr. Arnold P. Mulkey has returned to Millen and will be associated with his father, Dr. Q. A. Mulkey, in the practice of medicine.

The Lowndes County Medical Society met in the Adel Lions' Clubroom at Adel on July 8th.

Dr. D. Henry Poer, Atlanta, was elected to membership in the American Association for the Study of Goiter, at the annual meeting recently held in Salt Lake City. This Association is composed of 150 members interested in the study of goiter, and there are only ten members in the South. Dr. Poer is Director of the Thyroid Clinic at the Grady Hospital, Atlanta.

Dr. Eugene R. Corson, Savannah, has been given the title of Examiner-Emeritus by the Equitable Life Assurance Society for his notable work for the Society since 1896. In the Equitable Agency Items is printed the following in reference to Dr. Corson: "In the annals of the medical profession there can hardly be found a more thrilling chapter than that being lived by Dr. Corson, the world famed roentgenologist of Savannah. Dr. Corson has been both a pioneer and a martyr in the field of x-ray, having sacrificed two injured fingers by too long exposure, in the early days of the science. His discoveries and experiments have contributed greatly toward making possible the modern miracles achievable through the use of the x-ray."

The Chattahoochee Valley Medical and Surgical Association held its annual meeting at Radium Springs, Albany, July 9, 10, 11. The name of the Association has been changed to "Chattahoochee Valley Medical Association," the words "and Surgical" were taken from the name of the organization. Officers elected for the ensuing year were: Dr. Robert B. McIver, Jacksonville, Florida, President; Dr. John C. Keaton, Albany, First Vice-President; Dr. Edward S. Sledge, Mobile, Ala., Second Vice-President; Dr. Frank K. Boland, Atlanta, Secretary-Treasurer for a term of five years; Dr. C. W. Roberts, Atlanta, member of the Council to fill the unexpired term of Dr. Boland; Dr. Edward Jelks, Jacksonville, Florida, member of the Council for a term of five years. Radium Springs, Albany, was selected for the 1937 meeting place.

Dr. G. Lombard Kelly, Augusta, served as Vice-Dean of the University of Georgia School of Medicine, Augusta, since the resignation of Dr. W. L. Moss in February, 1934. By action of the Board of Regents of the University System of Georgia, he will become Dean of the School, effective September 1st.

Dr. Hulett H. Askew announces that his practice will be limited to diseases of the anus, rectum and colon. Offices located in the Candler Building, Atlanta.

The Ocmulgee Medical Society met at Hawkinsville on July 5th. Dr. Warren A. Coleman, Eastman, and Dr. Albert R. Bush, Hawkinsville, read scientific papers.

The Lowndes County Medical Society met at Adel on July 8th. Dinner was served at the Adel Cafe.

Dr. W. Barron Crawford, Jr., has opened an office adjoining that of his father at 14 East Taylor Street, Savannah, for the practice of medicine. He has just completed an internship of two years at St. Luke's Hospital, New York City.

The doctors of DeKalb, Fulton and Rockdale counties were guests of the Fifth District Pharmaceutical Association at a barbecue given at the home of Mr. Jake Hall, Sheriff of DeKalb county, at Panthersville, on July 18th.

Dr. O. S. Gross, native of Glennville, has opened offices at Vidalia for the practice of surgery. He is a graduate of the University of Georgia School of Medicine, served as intern and later as house physician at the Spartanburg General Hospital, Spartanburg, S. C.

Dr. Wm. S. Prather, Americus, was selected as the most valuable citizen of Americus and Sumter county in a poll of the citizens by the Kiwanis club. The poll showed that more than twice as many people favored Dr. Prather as those for any other person.

The members of the Richmond County Medical Society were guests of the Augusta Retail Druggists at a barbecue on July 18th.

Dr. Herschel B. Bray, Wrightsville, is taking post-graduate study in surgery at Chicago.

The Fourth District Medical Society met at Warm Springs on August 7th. Titles of scientific papers on the program were: *Treatment of Thyroid Diseases*, Dr. D. Henry Poer, Atlanta; *Some Poliomyelitis Problems—illustrated with Motion Pictures*, Dr. Chas. E. Irwin, Warm Springs; *Demonstration in Skeletal Traction in the Treatment of Fractures*, Dr. Enoch Callaway and Dr. J. S. Holder, LaGrange; paper by Dr. Geo. Walker, Griffin; paper by Dr. T. B. Taylor, Thomaston; addresses by Dr. James E. Paullin, Atlanta, President of the Association; by Dr. B. H. Minchew, Waycross, President-Elect of the Association, and Dr. J. A. Redfearn, Albany, Councilor for the Second District. The next meeting of the Society will be held at Griffin on February 12, 1936.

The Fulton County Medical Society met at the Academy of Medicine, Atlanta, August 1st. Officers from the medical corps at Fort McPherson were on the

program as follows: Major Walter F. Macklin, case report, *Eye Traumatism from the Civilian Conservation Corps*; Colonel William N. Bispham, clinical talk, *The Treatment of Malaria with Atabrine*; Captain John B. Chester, paper, *Recent Advances in Orthopedic Technic*. The discussion was led by Dr. H. Walker Jernigan. Dr. R. H. McClung and Dr. J. Calvin Sandison.

The Randolph County Medical Society met at the Patterson Hospital, Cuthbert, on August 1st. Dr. Leonard R. Massengale read a paper entitled *Acute Glomerulo-Nephritis*.

Dr. John R. Walker announces the opening of offices at 152 Forrest Avenue, N.E., Atlanta, for the practice of general medicine and surgery.

The Tenth District Medical Society met at Elberton on August 14th. Titles of scientific papers on the program were as follows: *Preventive Pediatrics*, Dr. Wm. A. Mulherin, Augusta; *Agranulocytosis*, Dr. H. W. Birdsong, Athens; *Coronary Heart Disease: Diagnosis and Treatment—illustrated with lantern slides*, Dr. John W. Brittingham, Augusta; address by Dr. Jas. E. Paullin, Atlanta, President of the Association; *Meddlesome Obstetrics*, Dr. Joseph Akerman, Augusta; *Chorea*, Dr. J. E. Johnson, Jr., Elberton; *Some Important Fractures of the Foot*, Dr. H. M. Michel, Augusta; address by Dr. J. M. Hull, Augusta, President of the Society.

Dr. James P. Hanner announces the opening of offices at 401-403 Medical Arts Building, Atlanta. Practice limited to diseases of infants and children.

Dr. Z. V. Johnston, Calhoun, will have Dr. W. D. Hall, a graduate of Emory University School of Medicine, associated with him in the practice of medicine. Dr. Hall completed his internship at the Georgia Baptist Hospital, Atlanta, on July 1st.

Dr. Frederick R. Minnich announces the opening of an office at 1218 First National Bank Building, Atlanta. Practice limited to obstetrics and gynecology.

Dr. W. L. Mathews, Winder, was elected Commander of the Ninth District American Legion at Gainesville on August 2nd. The next meeting of the Legion will be held at Winder.

The Burke-Jenkins-Screven Counties Medical Society met in the Masonic Hall at Millen on August 1st. Dr. W. W. Hillis, Sardis, reported a case of *Peuperal Sepsis*; Dr. C. Thompson, Millen, reported cases of *Actinomyces of the Urachus which Involved Bladder and Anterior Abdominal Wall*; *Pneumonia Followed by Empyema in a Case of Advanced Tuberculosis That Has Healed Promptly with Treatment by Aspiration and the Reinjection of Air*; Dr. H. C. Schenck, Atlanta, Department of Public Health, spoke on *The Diagnosis of Tuberculosis*. A Dutch

dinner was served at the Wayside Hotel. The next meeting of the Society will be held at the Anthony-Wayne Hotel, Waynesboro.

Dr. Richard Binion, Milledgeville, was elected Commander of the Morris Little Post of the American Legion.

The Ware County Medical Society met at the Bibb Tea Room, Waycross, on August 7th. The members were guests at dinner of Dr. H. A. Seaman and Dr. C. A. Witmer. Dr. Seamon read a paper entitled *Surgical Shock*.

PAINLESS REMOVAL OF WARTS AND MOLES

(Continued from Page 301)

CASE 4.—L. M. White, female, aged 15, was seen August 28, 1934, because of the continued growth of a brown mole just to the right of the nostril.

This was .6 cm. in diameter and had been congenital in nature. For the past six months the patient gave a history of an increase in its size and felt conscious of it due to some soreness.

The medicine was applied for 1½ minutes. The mole turned extremely dark but not black. The area was sponged with cold water and a vaseline dressing applied.

Two weeks later, the patient returned and a small scar was visible only on close inspection. No sign of its renewal has been noted.

Summary

A prescription is given which when applied to moles and warts removes them permanently, bloodlessly, quickly and completely. There is negligible scar formation and little opportunity for infection.

COMMUNICATION

COMPENSATION FOR MEDICAL SERVICE

BY F. E. R. A.

To the Editor:

The Polk County Medical Society, at its regular meeting, held in Cedartown, July 26, 1935, was attended by nearly 90 per cent of its total membership, and the subject of the payment of fees for services rendered to patients on the Relief Rolls was discussed.

Due to the voiced dissatisfaction with the amount and method of paying for professional services rendered, the Society felt it necessary to voice its opinion, in the hope that some mutually satisfactory plan may be formulated that will be to the best interests of all concerned, and to that end the following resolutions were passed:

"Be It Resolved—that the Polk County Medical Society, assembled at its regular meeting, July 26, 1935, express their disappointment and dissatisfaction at and in the manner in which the payment of fees for services rendered by its members to those on the relief rolls

of the county, and that this body finds it necessary to their welfare and the welfare of those whom they serve to discontinue such professional services to relief patients until such time as the proper authorities make arrangements for, and assume the responsibility for payment of a reasonable fee for such services:

That a copy of these Resolutions be sent to the Medical Association of Georgia; and

That the original hereof be sent to the Administrator of the Federal Emergency Relief Administration of Polk County, Georgia."

The Society and its individual members realize your difficulties and are always willing to cooperate on a fair and living basis.

POLK COUNTY MEDICAL SOCIETY.

Cedartown, Georgia

July 26, 1935.

LICENSED PHYSICIANS—EXAMINATIONS, JUNE, 1935

List of Physicians Licensed to Practice Medicine in Georgia as a Result of Examinations Given June 11-12, 1935.

Charles Clyde Adams, 23 W. Paces Ferry Rd., Atlanta.
Elbert Boogher Agnor, Grady Hospital, Atlanta.
Charles Watson Anderson, Clinton, S. C.
Jeff Turner Anderson, Ga. Baptist Hospital, Atlanta.
Theodore Antonakos, 1402 Gwinnett St., Augusta.
William Dodd Anthony, 1705 Walton Way, Augusta.
Homer Douglas Barber, Charity Hospital, New Orleans, La.
William Lawrence Barton, Macon Hospital, Macon.
Augustus Smith Batts, Hawkinsville.
James Malcolm Bazemore, 1303 Monte Sano Ave., Augusta.
Henry Bagley Benson, 1040 Springdale Road, N.E., Atlanta.
Edmond Wayman Camp, Jr., Box 754, Emory University.
Howard Rutherford Cary, Georgia Baptist Hospital, Atlanta.
Sung Wook Chang, Grady Hospital, Atlanta.
Merritt Ryals Clements, Cordele.
Melville Morgan Driskell, 1182 Ridgewood Dr., N.E., Atlanta.
Peter Alexander Drohomer, Grady Hospital, Atlanta.
Alfred Kennon Duckett, Clayton.
William Thomas Edwards, Jr., Cedartown.
Henry Charles Frech, Jr., University Hospital, Augusta.
Norton Frierson, Jr., University Hospital, Augusta.
Thomas Allen Futch, Jr., Thomasville.
Joseph Reid Gay, 842 Hickman Road, Augusta.
Frank Norman Gibson, Thomson.
Roy Lee Gibson, University Hospital, Augusta.
Irving Lawrence Greenberg, 898 Washington St., S.W., Atlanta.
Robert Benjamin Greenblatt, University of Ga. School of Medicine, Augusta.
Thomas Shearman Griggs, Washington.
Hugh Edward Hailey, Grady Hospital, Atlanta.
Milford Burriss Hatcher, 508 Mulberry St., Macon.
Allen Eugene Hauck, 1045 Oxford Rd., Atlanta.
Richard Frederick Hauck, U. S. Marine Hosp., Stapleton, Staten Island, N. Y.
Marion William Hester, Grady Hospital, Atlanta.
Edgar Earl Hitchcock, Macon Hospital, Macon.
William Petty Hixon, Grady Hospital, Atlanta.
Howard Thompson Holden, Erlanger Hospital, Chattanooga, Tenn.
Milo Hayden Holden, 989 St. Chas. Ave., Atlanta.
Norman Willard Holman, 2045 N. Decatur Rd., Atlanta.

Morris Richard Holtzclaw, 491 Seminole Avenue, Atlanta.

James Langston Hughes, Ga. Baptist Hospital, Atlanta.
Richard Lee Jackson, Emergency Hospital, Washington, D. C.

Ferdinand Hoffman Kauders, 704 E. 40th St., Savannah.

Dan Singleton Lawrence, James Walker Memorial Hosp., Wilmington, N. C.

John Thomas Leslie, University Hospital, Augusta.

Jack Manual Levin, 651 Parkway Drive, Atlanta.

Albert W. Lewis, Jr., Grady Hospital, Atlanta.

Tom French Little, Cedartown.

Oscar Harrell Lott, University Hospital, Augusta.

James Alva Loveless, Winder.

Edward Reynolds MacLennan, Decatur.

Hugh Bennett Magill, Jr., U. S. Marine Hosp., Norfolk, Va.

Anthony Joe Martino, Greenville Gen. Hosp., Greenville, S. C.

Lawrence Parks Matthews, Grady Hospital, Atlanta.

Homer Ray Maulding, Dallas.

Robert Wyman McAllister, Macon Hospital, Macon.

Roy Roger McCollum, Jr., 1310 Druid Park, Augusta.

James William McCurdy, Grady Hospital, Atlanta.

James Thomas McGibony, Greensboro.

William Bates McMath, Americus.

William Alfred Mendenhall, Baroness Erlanger Hospital, Chattanooga, Tenn.

Alfonso John Mooney, Jr., Grady Hospital, Atlanta.

Joseph Newton Moxley, Brantley, Ala.

James Benson O'Connor, 2705 Bellevue Ave., Augusta.

Marion Benson O'Kelley, Ga. Baptist Hosp., Atlanta.

August Richard Peters, Jr., 1521 Gwinnett St., Augusta.

Oliver Chandler Pittman, 257 Winn St., Decatur.

Harry Jacob Portman, 424 W. Broughton St., Savannah.

William Bethel Quillian, Jr., Grady Hospital, Atlanta.

Charles Purcell Roberts, 1085 St. Chas. Pl., N.E., Atlanta.

Thomas Luther Roberts, 118 Emory Drive, Atlanta.

Emanuel Frederick Rosen, 609 W. 37th St., Savannah.

Jacob Rubin, 322 W. Bay St., Savannah.

Alexander Brevard Russell, Winder.

James Winston Sapp, Box 34, Havana, Fla.

Henry Louis Schmidt, Jr., 2504 Helen St., Augusta.

Moore Jackson Smith, Jr., 506 Arcadia Ave., Chattanooga, Tenn.

Paul White Smith, Norton Memorial Infirmary, Louisville, Ky.

William Patrick Smith, Jr., 319 Church St., Decatur.

Solomon Tanenbaum, 1126 Greene St., Augusta.

Jose Alfonso Torrella, 50 Armstrong St., Atlanta.

John Pierce Turk, Jr., Nelson.

Frank Atherton Vernon, University Hospital, Augusta.

Thomas Oscar Vinson, Macon Hospital, Macon.

James Irving Weinberg, 537 Linwood Ave., N.E., Atlanta.

Clyde Walton Whitworth, Emory Univ. Hospital, Emory University.

Samuel Meacham Withers, Jr., Moultrie.

Edward Louis Bosworth, 208 E. Third St., Rome.

OBITUARY

DR. ROBERT OLIN SIMMONS, Rome; member; Vanderbilt University School of Medicine, Nashville, Tennessee, 1906; aged 52; died at a private hospital on July 6, 1935. He was born at Cave Springs and moved with his parents to Rome when seven years of age. Dr. Simmons served in the medical corps of the United States Army during the World War at Camp Hancock, near Augusta; and at Camp Crockett, Galveston, Texas. He was recognized as an able scholar

and highly regarded by his associates for his professional ability and integrity. Dr. Simmons was a member of the Floyd County Medical Society, American Medical Association and First Presbyterian church. Dr. E. R. Leyburn conducted the funeral services from the residence. Burial was in Myrtle Hill cemetery. Members of the Floyd County Medical Society were active and honorary pallbearers.

DR. UPTON H. KELLEY, Waynesboro; University of Georgia School of Medicine, Augusta, 1907; aged 54; died at his home on July 11, 1935. He was a native of Tennessee. Dr. Kelley practiced medicine at Evans and Gough before moving to Waynesboro eighteen years ago. He took an active interest in the civic, business and religious activities of the community. Dr. Kelley was a Mason, Shriner and a member of the First Baptist church. Surviving him are his widow and two daughters: Mrs. W. J. Hatcher and Miss Ouida Kelley, both of Waynesboro. Rev. Walter Moore and Rev. J. C. Parker conducted the funeral services from the First Baptist church. Members of the Burke County Medical Society formed an honorary escort. Burial was in Magnolia cemetery.

BOOK REVIEWS

Clinical Laboratory Methods and Diagnosis. By R. B. H. Gradwohl, M.D. 1028 pages, 328 illustrations and 24 color plates. Price, \$8.50. St. Louis, C. V. Mosby Co., 1935. The author's many years of experience as a director of clinical laboratories and a teacher of laboratory methods enables him to present a work of exceptional value and completeness; the book should serve admirably as a text for students and laboratory workers and as a reference work in the laboratory and for the practicing physician. The practicing physician should be grateful for a book which points out the methods of laboratory procedure which may be adopted toward the solution of many difficult diagnostic problems.

The treatment of the various subjects is clear and concise and includes the newest methods of laboratory procedure. There is a chapter on Postmortem Technic. The color plates are good. Forty-seven pages are devoted to a complete index.

HAROLD BOWCOCK, M.D.

International Clinics. Vol II. Forty-Fifth Series, June, 1935. J. B. Lippincott Co. This volume of International Clinics exemplifies the well merited reputation of this publication for timely, authoritative and practical articles on live subjects in medicine. Louis Hamman's article on "Heart Pain of Organic Origin" is an unusually clear discussion of angina pectoris and related disorders. This is balanced by Hamburger's paper on "Heart Pain of Functional Origin." A very sound discussion of prognosis in heart disease is given in the leading article by Gibson. A practical clinical consideration of masses in the groin is ably handled by Cohn. Readers of this publication will find it a helpful and stimulating volume. There are also articles on

Surgery, Pediatrics and Obstetrics, so that one can recommend this work particularly to the man in general practice.

R. HUGH WOOD, M.D.

Biochemistry of Medicine. By A. T. Cameron, M.A., D.Sc., F.I.C., F.R.S.C. and C. R. Gilmour, M.D., C.M., F.R.C.P. (C) Second Edition, 518 pages with 31 illustrations. William Wood & Co., Baltimore, 1935. Price, \$6.00.

A physician's library is incomplete without a book on Biochemistry of Medicine. This book is well written and the authors have explained in detail the function of every organ and tissue of the body, in normal as well as diseased conditions. The metabolism of carbohydrates, proteins, fats and their by-products is explained in such a manner that the reader easily understands the findings in both normal and pathologic states of the human mechanism. This book is highly recommended to those who wish to know "why" a condition exists, and to gain a better knowledge of the correlation of clinical and laboratory findings. With the aid of a book of this nature one can treat more intelligently conditions met with in the daily routine of the practice of medicine.

T. LUTHER BYRD, M.D.

The Story of Medicine in the Middle Ages. By David Riesman, M.D., Professor of the History of Medicine and Professor Emeritus of Clinical Medicine, University of Pennsylvania; member, History of Science Society and Medieval Academy of America. Contains 402 pages—illustrated. Publisher: Paul B. Hoeber, Inc., 76 Fifth Avenue, New York City. Price, \$5.00.

This book is worth much more than the space it would occupy on any doctor's library shelf.

Just where is the line of demarcation between the Dark Ages, the Middle Ages and the Modern Age? An interesting speculation! Ten thousand years from now, looking backward, the present time might be included in the Middle Ages. How do we know? Modern medicine is in reality less than a hundred years old.

The bibliography of this book is astounding in its extensiveness. Limited space prevents any attempt to follow the various phases of its development.

It is interesting to learn that as far back as the 10th and 11th centuries a medical practice act was enacted. In the school of Salerno, teaching was not only didactic but by visits to the beds of the sick. Even then a code was established regulating the relations of physicians and apothecaries from having pecuniary dealings with each other.

This book is highly recommended to every doctor for its educational and cultural value.

FRANCIS JONES, M.D.

The Year Book of Neurology, Psychiatry and Endocrinology, 1934. The Year Book Publishers, Chicago. Edited by H. H. Reese, M.D., Professor of Neurology and Psychiatry University of Wisconsin; H. H. Pas-

kind. M.D., Assistant Professor of Nervous and Mental Diseases, Northwestern University, etc.; and E. L. Servinghaus, M.D., Associate Professor of Medicine, University of Wisconsin. There are 746 pages which are almost equally divided into three parts, covering the three subjects. The illustrations and tables are clear and concise. In general the book covers the most important writings in this country and abroad. The discussions are very concentrated and yet discussed sufficiently to give the reader a clear understanding of neurology, psychiatry and endocrinology and where more information may be obtained.

Dr. Reese first describes the physiology of the brain and develops many interesting functional phenomena and then continues with the various organic and clinical neurological cases and discussions. The therapies have not advanced to great degrees excepting reports on neuro-surgery.

Dr. Paskind also begins his psychiatric discussions with physiological interpretations of some neuroses and psychoses. Pavlov pathological inertness is beautifully explained. Many interesting views regarding hereditary and environment elements are discussed by authorities here and abroad. Personality, electricity, drugs, emotions and mental trends as well as dream interpretations are quoted by many leaders. The functional and organic psychoses are compared, related and treated and case histories are related. Dr. Paskind shows the tremendous amount of work which has been done and their relative values.

Dr. Servinghaus clearly shows a tremendous amount of research which have been done in endocrinology and particularly with the pituitary gland. He stresses the inadvisability of polyglandular therapy. There are many suggestions regarding endocrine function, therapy and correlations with disease, growth, personality, mind and body, but he clearly shows by quoting many investigators that there is a great future to endocrinology.

In general the book is most inspiring and instructive.

SAMUEL KAHN, M.D.

New and Nonofficial Remedies, 1935. Containing Descriptions of the Articles Which Stand Accepted by the Council on Pharmacy and Chemistry of the American Medical Association on January 1, 1935. Cloth. Price, \$1.50. Pp. 510. Chicago: American Medical Association, 1935.

In this book the Council on Pharmacy and Chemistry lists and describes the medicinal preparations that it has found acceptable for general use by the medical profession. A glance at the list of the Council members and the long list of consultants appearing in the first part of the book gives ample warrant for the authority of the Council's selections.

Not only does the Council "accept" new preparations but from time to time it omits those which have been accepted but which have not with the lapse of time upheld their original promise of therapeutic merit. The list of omissions for 1934 shows that the Council has been mainly concerned in this respect with B.

acidophilus preparations and with antiseptics. Several preparations of each class have been omitted. The list of omissions does not reveal the presence of any preparation that promises to be epoch making in the sense that insulin was, for instance. However, the following newly accepted preparations are noteworthy; Carbarsone, an arsenical used chiefly in the treatment of amebiasis (the Council published a special report on this drug, supplementing the preliminary report of 1932); Hippuran and Diodrast, two different types of urographic contrast mediums; Carotene, the precursor of vitamin A; Dilaudid, a substitute for morphine; Neo-Synephrin Hydrochloride, which has a number of advantages as a vasoconstrictor over synephrin tartrate; and Diothane, which represents a type of local anesthetic entirely different chemically from any heretofore accepted for N. N. R.

The description of products containing vitamins A and/or D have been revised to give the potencies in terms of the recently adopted pharmacopeial units, thus bringing some measure of uniformity into this heretofore chaotic field. No doubt the book will be revised next year to conform with the new Pharmacopeia in its entirety.

A valuable feature of the book is the grouping of preparations in classes. Each of these is introduced by a general discussion of the group. Thus the silver preparations, the iodine preparations, the arsenic preparations, the animal organ preparations and the biologic products are each preceded by a general discussion of the particular group. These general articles compare the value of the products included in the group with similar pharmacopeial and other established drugs which it is proposed that these proprietary preparations shall supplement or supplant.

Physicians who wish to know why a given proprietary is not described in New and Nonofficial Remedies will find the "Bibliographical Index to Proprietary and Unofficial Articles not Included in N. N. R." of much value. In this section (in the back of the book) are given references to published articles dealing with preparations that have not been accepted. These include references to the Reports of the Council, to Reports of the A. M. A. Chemical Laboratory and to articles that have appeared in *The Journal*.

Annual Reprints of the Reports of the Council on Pharmacy and Chemistry of the American Medical Association for 1934, with the Comments That Have Appeared in The Journal. Cloth. Price, \$1. Pp. 135. Chicago: American Medical Association, 1934.

Each succeeding volume of reports of the Council reveals more of the long and successful fight in the interest of rational therapeutics. The Council is no longer chiefly concerned with noisome proprietaries and yet this latest volume contains reports on such articles as "Vita-Cell," a secret preparation marketed with exaggerated claims, and "Raylos," a shotgun preparation marketed in a way to promote its ill advised use by the public. Most of the "unacceptable" reports in this volume are concerned with products that may have

some merit but are not offered to the public in a way which experience has taught the Council is necessary before a therapeutic agent is acceptable. Such products are Iodine Dusting Powder (Sulzberger), rejected for lack of clinical evidence of its advantage over one of its constituents; Pernoston, rejected because of lack of clinical evidence to justify routine intravenous injection of barbitol compounds; Di-Hydranol, a claimed bactericidal agent proposed for use as an "intestinal antiseptic," a claim not supported by sufficient clinical evidence; and Squibb Adex Tablets, a product containing a concentrate of vitamins A and D, for which the firm could not agree to adopt a more informative name.

To those who have followed the Council's investigation of *B. acidophilus* therapy, the report "Acidophilus Bacillus Liquid-Mulford and Mulford Acidophilus Bacillus Block Omitted from N. N. R." will be of interest. The Council has apparently not yet reached an ultimate conclusion concerning acidophilus therapy, but it has for years held that no product could be expected to be of value unless it could show at least one hundred million viable *B. acidophilus* organisms at the "date of expiration." Competent bacteriologic examination showed that the two preparations here reported were inferior to this standard. Further grounds for omission were the failure of the manufacturer to comply with certain stipulations in regard to labels and

advertising. Another noteworthy omission is that of Alpha-Naphco and its dosage forms, omitted because the Council on reconsideration found that it is a weak antiseptic.

The Council also issues preliminary reports, which define the status of new preparations for which the evidence is not yet sufficient to justify their presentation to the medical profession generally. Preliminary reports do not imply rejection but rather postponement of consideration until more evidence is reported by competent investigators. These reports are the outposts of therapeutic progress and as such are valuable sources of information to physicians. In this volume there are preliminary reports on Adrenal Cortex Extract, concerned mostly with scientific terminology, Cysteine Hydrochloride, Dihydroxy-Anthranol (Anthralin), Gastric Mucin, Hemoprotein (Brooks) Phenylmercuric Nitrate and Phenylmercuric Chloride.

Illustrative of the Council's efforts to keep those concerned informed of the basis for its actions are the "Recent Revisions or Elaborations of the Council's Rules of Interest to Manufacturers and the Medical Profession," which have appeared in the last two volumes. These inform the profession of the various problems which arise and the care given to their consideration. To be commended also is the "Report on Sterility of Ampule Preparations."

MEMBERS OF THE AMERICAN MEDICAL ASSOCIATION FROM GEORGIA REGISTERED AT THE ATLANTIC CITY SESSION

JUNE 11-14, 1935

Abercrombie, T. F., Atlanta.	Erickson, Mary J., Thomasville.	Myers, Wm. H., Savannah.
Abram, Lewis E., Fitzgerald.	Eubanks, Geo. F., Atlanta.	Norris, Jack C., Atlanta.
Alden, Herbert S., Atlanta.	Fancher, Jas. K., Atlanta.	Parker, Francis P., Decatur.
Askew, Hulett H., Atlanta.	Farmer, C. Hall, Macon.	Paullin, Jas. E., Atlanta.
Bazemore, Wallace L., Macon.	Ferguson, C. H., Thomasville.	Pendergrass, R. C., Americus.
Berry, Arthur N., Columbus.	Fitts, Jno. B., Atlanta.	Phillips, W. P., LaGrange.
Bivings, Lee, Atlanta.	Fort, Arthur G., Atlanta.	Read, Joseph C., Atlanta.
Blackford, L. Minor, Atlanta.	Fountain, Jas. A., Macon.	Roberts, Chas. W., Atlanta.
Boland, Frank K., Atlanta.	Garner, J. R., Atlanta.	Sanchez, S. E., Barwick.
Boyd, Montague L., Atlanta.	Giddings, Glenville, Atlanta.	Sauls, H. C., Atlanta.
Brawner, Albert F., Atlanta.	Harrell, H. P., Augusta.	Schley, F. B., Columbus.
Brewer, A. M., Tunnell Hill.	Holmes, L. P., Augusta.	Shanks, Edgar D., Atlanta.
Bunce, Allen H., Atlanta.	Johnson, J. E. L., Roberta.	Smisson, R. C., Fort Valley.
Chason, Thomas, Donalsonville.	Kelly, G. Lombard, Augusta.	Sweet, Mary F., Decatur.
Clay, Grady E., Atlanta.	Kracke, Roy R., Decatur.	Sydenstricker, V. P., Augusta.
Collier, Thos. J., Atlanta.	Lancaster, E. M., Shady Dale.	Thompson, D. N., Elberton.
Compton, H. T., Atlanta.	McCord, Jas. R., Atlanta.	Wall, W. H., Pitts.
Colvin, Emmett D., Atlanta.	McDougall, Wm. L., Atlanta.	Weaver, Olin H., Macon.
Curtis, Walker L., College Park.	Metts, J. C., Savannah.	Whelan, Edward J., Savannah.
Davenport, T. F., Atlanta.	Minor, H. W., Atlanta.	Wise, S. P., Plains.
Davison, Hal M., Atlanta.	Montgomery, R. C., Butler.	Wood, D. L., Dalton.
Dismuke, H. L., Ocilla.	Morrison, A. A., Savannah.	Wood, R. Hugh, Atlanta.
Dykes, A. N., Columbus.	Morrison, Howard J., Savannah.	Yampolsky, Joseph, Atlanta.

YOUR FEVER THERMOMETER

Galileo, in 1593, invented the thermoscope, which consisted of a large bulb opening into a long tube, marked with a scale, and so fastened that the end of the tube opened beneath the surface of a liquid, wine or water, in an open vessel. In 1625 Sanctorius made practical application of the invention when he applied the bulb of the instrument to the skin of a patient with fever. In 1714 Fahrenheit invented the mercury thermometer but accurate and consistent use of the instrument awaited another 100 years, when Traube and his student, Wunderlich, established the importance of measuring the temperature of the patient.

TO PRESIDENTS AND SECRETARIES OF
STATE ASSOCIATIONS AND DELEGATES
TO THE AMERICAN MEDICAL
ASSOCIATION

Important!

Information coming to the Committee indicates that the action of the House of Delegates at the Atlantic City Session, in consideration of Sickness Insurance, has in some instances not been fully understood. The misconception has to a degree been advanced by reports in some journals and headlines in public newspapers to the effect that sickness insurance has been given broad approval by the American Medical Association. Some groups are said to have planned to act on this supposition.

The report of the Reference Committee of the House of Delegates has been published in the Journal and the Special Report of the Bureau of Medical Economics will soon be available to members of the Association. It is urgently recommended that both the Special Report of the Bureau of Medical Economics, containing an analysis of the various plans at present in operation, and the report of the Reference Committee, which were adopted by the House of Delegates, be carefully studied before any plans are considered. No county society should consider the creation of any new social machinery for the extension of medical service or collection of compensation for such service before the existence of a real need for such change has been demonstrated and the requirements and available existing facilities have been carefully appraised. The report of the Committee states that "Analyses show that the class for which special provision is necessary is far smaller than most lay-writers and the results of so-called 'surveys' would indicate." The economic problems of the individual cannot be adequately dealt with on the basis alone of his classification in the group of those who receive low incomes. Social workers have accordingly long recognized the necessity of the investigation of the problem of each individual. Upon this basis is the method of individual study or "case work" of social service founded. The problem of needed medical service to each person of the group is also an individual one, and one which cannot be met by group classification.

Based upon an investigation of the resources of the individual, an adjustment of fees for needed medical services, according to ability to pay in graduated installments, in most instances meets the problem of the individual patient who is not wholly indigent. It is to this type of organization that the Legislative Committee referred in a previous communication as meeting public and individual requirements. If the individual is indigent, he obviously cannot be expected to pay for medical service on an adjusted fee basis, nor is he provided for in proposed sickness insurance or any plan other than charitable or direct Government indigent relief. In that instance medical costs are only one phase of the individual's economic distress, and his problem requires more comprehensive measures than simple provision of medical services.

A group purchasing an undetermined amount of medical service upon a prepaid fixed premium basis offered to all, within broad income limits, who apply, sooner or later will include a large percentage of individuals who can and have previously supported medical practice upon normal private basis. Experience has shown that prepayment medical service has not been salable on the basis of adequate fees for the physician, as evident in experience here and abroad.

Some of the effects of such plans are as follows: (1) A large amount of medical work will be done on a financial basis which is inadequate to provide for maintenance of proper standards. (2) Those not included in the plan will be educated to demand medical services at correspondingly low fees. (3) The operation of such plans over a period of average conditions will not add to the sum total of fees derived from the income group insured, and aside from possible temporary changes in distribution will simply reduce more professional services to an inadequate financial basis. (4) The establishment of such plans will create a pattern which, although undesirable, it may be impossible to change or discard, and may therefore lead to still broader adoption of objectionable practices. (5) There is reason to believe that some local plans, even though now apparently satisfactory, inherently possess the same weaknesses and destructive tendencies as have been evident in similar patterns of operation in foreign countries. (6) The questions of contract practice, legal responsibilities, and state insurance regulations encountered, as well as the drift to solicitation of patients and violation of medical ethics cannot be presented here. (7) Extensive systems of voluntary sickness insurance invite competitive offerings by irresponsible people, and in Europe have created conditions so chaotic as to advance the establishment of compulsory insurance by legislative act.

Less populous communities in which the medical and financial needs of the individual patients are known to physicians and public relief officers have no need of any cumbersome machinery.

It is to be noted that the action of the American Medical Association did not contemplate the operation of any plans, except by local constituent societies of the American Medical Association, and that in so doing medical societies must be guided by the Ten fundamental Principles adopted in June, 1934.

All proposed plans of county societies should be submitted to officers and appropriate committees of state medical societies. Before considering any program, it would also seem advisable to confer with the Bureau of Medical Economics of the American Medical Association which has the greatest opportunity to study the needs for any varying successes of the existing experiments.

Great responsibility rests upon state and local medical organizations and upon Delegates, who entered into the consideration and adoption of these reports, to see that the action of the House of Delegates be not construed as approving or encouraging the establishment of local sickness insurance units embracing the objection-

able features against which the profession, as a national body, is making such a determined and effective fight.

*Committee on Legislative Activities
of the American Medical Association*

E. H. CARY, M.D., *Chairman*
C. D. WRIGHT, M.D.
F. S. CROCKETT, M.D.
R. L. SENSENICH, M.D.
BY—R. L. SENSENICH.

203 J. M. S. Building
South Bend, Indiana
July 15th, 1935.

MEDICAL JOURNALS WANTED

The A. W. Calhoun Medical Library would like the following material to complete the files of Georgia periodicals. Please communicate either with Dr. F. K. Boland, Atlanta, Ga., Miss Mildred Jordan, A. W. Calhoun Medical Library, Emory University, Ga.

Atlanta Journal Record of Medicine

V. 3, No. 8-9;	1901
V. 5, No. 1-9;	1903
V. 8, No. 10;	1907
V. 64, No. 7-8;	1917

Atlanta Medical and Surgical Journal

V. 2-4;	1856-1859
V. 5, No. 1-11;	1859-1860
V. 6, No. 5-8, 10-12	1860-1861
V. 8, No. 1-8, 10;	1867-1868
V. 10, No. 10;	1873
V. 16, No. 8-9, 12;	1878-1879
V. 17, No. 5, 7-10;	1879-1880
V. 18, No. 2, 4-6, 8-9, 12;	1880-1881
N. S. V. 1, No. 1-4, 6-12;	1884-1885
V. 5	1888-1889
V. 7, No. 1-2, 6-8, 10;	1890-1891
V. 8, No. 5, 10;	1891-1892
V. 11, No. 12;	1885
V. 12;	1895-1896
V. 13, No. 1-6, 9-12;	1896-1897
V. 14	1897-1898

Georgia Historical Quarterly (Georgia Historical Society)

V. 1-4	1917-1920
V. 5, No. 1-3;	1921
V. 6, No. 1-5;	1922
V. 7, No. 2-4;	1923
V. 8	1924
V. 9, No. 1-3;	1925
V. 10, No. 2-3;	1926
V. 11, No. 2-4;	1927
V. 12, No. 1-5;	1928
V. 13, No. 2, 4;	1929
V. 14 to end of volume	1930
to present date.	

Georgia Medical Association Journal

V. 1, No. 1, 8, 10 to end	
of volume;	1911
V. 10, No. 6, 9-10, 20 to end	
of volume;	1920-1921

<i>Georgia Medical Association. Transactions</i>	
V. 1-18;	1850-1867
V. 36;	1855
V. 62, to end of volume	1911
to present date.	

Georgia Practitioner

V. 1, No. 1, 3, 6 to end of	
volume;	1905
V. 2, No. 4-5, 7 to end of	
volume;	1905
V. 3-4;	1906

GEORGIA, NAMED

Georgia was named for George II of England, who chartered it as a colony in 1732. The first settlers were insolvent debtors and persecuted Protestants, brought to Georgia by James Edward Oglethorpe in 1733.

The Academy of Ophthalmology and Otolaryngology will hold its annual meeting at Cincinnati, September 14-20.

THE USE OF DILAUDID IN GYNECOLOGIC SURGERY

From the Department of Obstetrics and Gynecology, Washington University, St. Louis, T. K. Brown and H. L. Kleine report on their experience with Dilaudid in gynecology with 225 surgical patients (Am. J. Ob. & Gyn., 30:89-92 (July) 1935). In each case, two injections of 1/130 gr. hyoscine were given. The first injection, 1½ hours before operation, was combined with 1/48 to 1/32 gr. Dilaudid, the second injection was made one hour before the operation.

In part, the authors write, "As to the analysis of individual cases, it was found that complete analgesia and amnesia were obtained in 83 per cent of the cases, moderately good in 15 per cent and poor in only 2 per cent. The action was more prompt with Dilaudid than with morphine, the patient becoming drowsy five to eight minutes after the first injection. The amounts of inhalation anesthesia were definitely decreased and the patients reacted sooner after the operation."

"Dilaudid relieved pain as well as, if not a little better than, morphine and, of course, in much smaller doses. The action was more prompt with Dilaudid and the mental faculties did not remain dulled as long afterward. Dilaudid did not depress the patient as much as morphine. The patient was clearer, more cooperative in her nursing care, and better able to feed herself and take fluids. Less inhibition of peristalsis with Dilaudid than with morphine in laboratory tests has been reported. We found this to be true clinically, because there was definitely less distention when Dilaudid was used in place of morphine. Less catharsis was employed and there were no cases of ileus in the entire series. Vomiting was definitely decreased. We also noticed that the number of postoperative catheterizations was slightly decreased when Dilaudid was used."

Postoperatively, a rectal suppository of 1/24 gr. (0.0025 gm.) Dilaudid was found to be a very easy and efficient way to administer the drug. Pain was relieved within fifteen to twenty minutes and for con-

siderably longer periods of time than when given hypodermically.

SUMMER DIARRHEA IN BABIES

Casec (calcium caseinate), which is almost wholly a combination of protein and calcium, offers a quickly effective method of treating all types of diarrhea, both in bottle-fed and breast-fed infants. For the former, the carbohydrate is temporarily omitted from the 24-hour formula and replaced with 8 level tablespoonfuls of Casec. Within a day or two the diarrhea will usually be arrested, and carbohydrate in the form of Dextro-Maltose may safely be added to the formula and the Casec gradually eliminated. Three to six teaspoonfuls of a thin paste of Casec and water, given before each nursing, is well indicated for loose stools in breast-fed babies. Please send for samples to Mead Johnson & Company, Evansville, Indiana.

LABORATORY TECHNIQUE—short, elementary, individual courses by week or month, morning or afternoon instruction, blood chemistry, urine analyses, metabolism, etc. **ALSO** course in x-ray technique. Dr. E. Fox, 384 East 149 Street, New York City.

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"In the foothills of the Blue Ridge Mountains"

It is not necessary to send your tuberculosis patients out of the state. This Sanatorium is modern, efficient, under excellent management and the patients will receive the best treatment required by the most exacting physicians. Rates from \$15.00 to \$20.00 per week.

Under the supervision of

Clarke County Tuberculosis Association
Athens, Georgia

The Southern Medical Association, Birmingham, will meet in St. Louis, Missouri, November 19, 20, 21, 22, 1935.

PHYSICIAN WANTED

For general practice and minor surgery with ability to examine contents of stomach and make diagnosis. Good opportunity for capable doctor. References from medical profession.

Address "L" care of the Journal.

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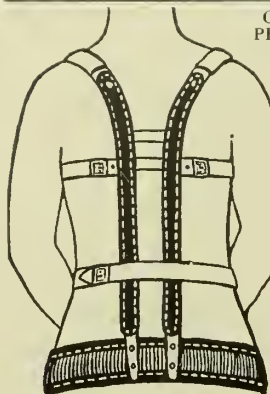
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OX FASCIA REPAIR IN THE CURE OF HERNIA*

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Savannah

Nearly forty-five years ago Halstead in this country and Bassini in Italy described their operations for hernia. The important steps were the transplantation of the cord and the suturing of the internal oblique to the shelf of Poupart's ligament. Because of the great improvement in results which followed the adoption of these methods or modifications of them, the profession felt they had an almost perfect cure, until careful follow up systems by various groups and hospitals began to show otherwise. In reoperating on these patients it was found, in nearly all instances, that the suture line had failed to hold, and that there were various sized gaps present, bridged by flimsy scar tissue against which the peritoneum again bulged, to form another sac with a neck much larger than the previous one. Naturally, the same type of repair as done at the first operation was destined to failure under these more difficult and unpromising circumstances.

In 1904 McArthur described and reported cases cured by the use of antoplastic fascia strips, taken from the external oblique. This was not given the attention it deserved until Gallie, in 1923, described his method of the use of strips of fascia lata in the treatment of hernia, and reported 100 cases of recurrent, ventral and direct hernias with 100 per cent cures. These fascia strips, 1/4 inch wide, are obtained by a long incision on the lateral aspect of the thigh posterior to the middle, where the fascia is most tendonous and the

rent in the fascia is then sutured with catgut. Obviously there is a disadvantage in this operation, where time is an important factor, as it often is, in the difficult type of case where much time consuming dissection and preparation for the sutures must be carried out.

Masson recently has described an instrument, on the same principle as the vein stripper, which can be used through a small incision in the thigh at the upper end of the proposed fascia strips. Here the gap, left by removing the fascia, cannot be closed and may leave a long muscle hernia, which, while not disabling, is not desirable.

Nagoette first attracted our attention to the use of dead grafts in 1917, by transplanting alcohol preserved tendon in living animals, to repair tendon defects. He found that the so-called dead graft "took" as well as the living, and in an experimental study with dead grafts microscopically found the following histologic changes: "The dead cells of the graft were removed by the wandering cells of the host; fibroblasts from the host grew into the persisting connective tissue framework of the graft and repopulated this framework with living cells in the place of old dead inhabitants; and finally a new circulation was established in the graft so that in a short while it was impossible to tell that the graft had ever been dead." Nagoette considered that fibres of connective tissue are inert coagula formed from living cells and that there is no change in their character, physically or chemically, when preserved in alcohol, and that they are dead substances in the animal as they are in alcohol and when transplanted are inert fibres among their fellows of the same kind. Koontz, in 1926, proved by animal experiment that these same histologic changes occurred in transplanted ox

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fascia and reported his almost perfect results in a series of cases in which he used preserved ox fascia in hernia repair on the human.

Observations on the failure of the suture line to hold in the great majority of recurrent and ventral hernias led Gallie and La Mesurier to conduct experiments on dogs and rabbits which consisted of a series of operations, in some of which simple wounds in fascia, aponeurosis and muscle were sutured with catgut and linen, and in others pedunculated and free transplants of aponeurosis and fascia were sutured with linen and catgut into gaps in these structures. From these experiments they found that:

"Wounds in fascia and aponeurosis, when sutured in edge-to-edge apposition with absorbable sutures, heal together by means of delicate scar tissue, which develops from the areolar membrane investing the surfaces and from the loose connective tissue stroma separating the bundles of fibres. This scar is not strong, and, if the wound is subjected to strain, it slowly stretches leaving a gap between the edges of the wound, which is filled with areolar membrane continuous with that on the surfaces of the aponeurosis or fascia.

When the linen sutures are used, the tendency toward opening up of the wound when it is under strain is not marked. The sutures themselves assist in holding the edges together, and the scar in the region of the sutures is more abundant and denser than when catgut is used. In many cases, however, the linen cuts out and the edges of the wound spread apart exactly as they do when absorbable sutures are employed.

The simple overlapping of the edges of the wound adds little or nothing to the solidity of the healing. By this procedure the overlapping edges are not placed in actual contact, as the areolar tissues on the surfaces are interposed. These adhere lightly to one another, but any degree of strain causes the edges of the wound to draw apart. The process of overlapping increases the degree of strain, thus tending to defeat its own object.

If, before overlapping the edges of the wound, the areolar membranes on the surface are thoroughly removed and the areas placed in contact, scraped and otherwise damaged,

the degree of adhesion is much increased. The scar between the overlapping layers is more dense, and it has a deeper grip on them than it would have under any other circumstances. Prolonged and unusual strain, however, results in stretching of the scar just as in the other methods of suture.

Side-to-side suture of undamaged folds of aponeurosis, such as is done in the suture of the conjoined tendon to Poupart's ligament, never results in permanent adhesion even under the slightest degree of strain.

Scarification of the surfaces of the folds before suture increases the degree of adhesion, but not to any great extent.

Side-to-side suture of undamaged muscles which, in contracting, tend to draw apart, such as suture of the two recti muscles in the middle line of the abdomen, results in the lightest possible adhesion, which disappears in a very short time.

Preliminary scarification and scraping of the sides of the muscle before suture add greatly to the solidity of union. This is due to the injury done to the connective tissue stroma of the muscle, and is responded to by the formation of a firm scar, which has a solid grip on the depths of the muscle.

Side-to-side suture of muscle and aponeurosis, as in the suture of the internal oblique muscle to Poupart's ligament, results in union of practically no strength. The strength of union is increased by preliminary damage to the sutured surfaces, but to a much less degree than in the suture of muscle to muscle. This is due to the fact that the smooth, shiny surface of the aponeurosis allows very little opportunity for a scar to get a solid grip on it.

Pedunculated or free transplants of fascia and aponeurosis, if placed in such a position that they can receive an adequate supply of lymph, continue to live unchanged.

Such transplants, when they are used to fill anatomic defects such as occur in inguinal and ventral hernias, heal to the structures to which they are sutured in exactly the same manner that has already been described in the healing of simple wounds in these tissues. If the edges are accurately brought together or are overlapped without scarification, the degree of adhesion is only that which is pro-

vided by a delicate areolar tissue. If they are overlapped and subjected to considerable damage, they unite by a generous scar. In the former case the slightest strain will cause the separation of the edges, but in the latter the union is more solid and often tolerates what may be considered normal degrees of strain. If the strain, however, is unusual or prolonged, the scar behaves exactly as it does elsewhere under similar conditions, and slowly stretches."

From these experiments and from clinical experience, operations depending on permanent adhesion between aponeurosis structures having a natural tendency to separate are defective if they depend solely on the process of healing in the line of suture. It is here that we find the explanation of the high percentage of recurrences in large ventral and direct inguinal hernias. Therefore, when confronted with these types of cases, we must avoid this element of chance, which depends solely on the strength and resistance of the scar and look for something which, to a great extent, eliminates chance. Fascia, either autogenous or preserved, has answered these requirements as we have seen by clinical use and experiment.

In the past three and a half years I have used ox fascia preserved in alcohol, prepared by Johnson and Johnson, either as a suture, or, as a meshed framework between the borders of the hernia when the tissues could not be approximated, fixing the fascia at short intervals by chromic sutures. There were 23 of these cases. Some were recurrent in men over sixty, others large direct hernias, some upper and lower abdominal ventrals and others large indirect scrotal. None have recurred since operation, although some are recent.

I am enthused over the results, especially in the four large recurrent hernias which were done in 1932 and which had returned within four months after the first operation. There were no infections. Serum collected in the wound in 9 cases, probably foreign body reaction, but this in no way interfered with the healing, as the longest stay in the hospital was three weeks and all were healed upon discharge.

I have been using silk sutures in small

hernias, but have been so pleased with my results with ox fascia that I believe I will soon be using it in all my cases. The fascia, which is in strips 1/4 inch wide and about 6 or 7 inches long, is removed from its tube and washed in normal saline and threaded on a Gallie needle, the end being pulled through just far enough to be tied to the long strand with chromic catgut No. 1. The other end is tied with the same strength catgut to prevent fraying and to make it more secure in fixing the beginning of the suture when the needle is run through the end to make the slip suture. Now insert one finger below the muscle and fascia at the lower end of the wound near the pubis and pass the needle through, taking a generous bite, and fix the suture by running the needle through the other end of the fascia strip, making a loop around the bite taken in the muscle and fascia. The needle is next passed down on the periosteum on the pubis and through Poupart's ligament at its insertion. This is the most important stitch of the repair and care must be taken to have good exposure. The suture is now continuous, taking bites about 1/2 inch apart, unless the edges of the opening cannot be approximated without undue tension when the suture can be placed closer together in order to cover in the opening by a mesh of fascia. Every second fascia suture is anchored with a suture of chromic catgut No. 1, passing through the fascia suture and all the structures through which the fascia suture passes. Be careful not to have any of the preperitoneal fat protruding between the sutures. The suture is continued up around the internal ring where it is carefully anchored with catgut so as not to choke the cord, and the end of the suture is tied to the structures with catgut. If we wish to reinforce, we can suture the external oblique with fascia in the same way, behind the cord, or if conditions found do not make this advisable it may be sutured in front of the cord with catgut or silk.

In ventral hernias we may use, if necessary, an ox fascia graft, which is also available, as is the sutures, suturing the graft into the defect with fascia sutures, or one may bridge the defect with a series of fascia sutures anchored with catgut. Overlapping is neither

necessary nor desirable and the peritoneum should be sutured separately with catgut.

Summary

1. The ordinary hernia repair, especially when the tissues are defective or under strain, is insecure.
2. It has been proven that fascia becomes incorporated in the defects and suture line as new tissue, giving added strength, and does not stretch under strain.
3. I believe that fascia is the ideal suture for all hernias. I prefer preserved ox fascia because it gives the same results as autogenous fascia, is easily available and obviates the necessity of an added operation to obtain fascia from the patient.

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Discussion on Paper of Dr. M. J. Egan

DR. LON W. GROVE (Atlanta): As time passes and we review our results following herniotomy, we have become more and more convinced that there is a much higher incidence of recurrences than heretofore thought. For this reason, any discussion of the repair of hernia is timely. Dr. Egan has presented his subject in a most convincing way.

I have had no experience with the use of ox fascia. I have used fascia grafts and fascia sutures in the repair of hernia, but have used autogenous fascia, taken either from the external oblique or from the fascia lata. I have gone to some trouble, through recent personal communications, to obtain what I think is a fair estimate of this method. I have a letter from Dr. Koontz, of Baltimore, who discussed the subject before the Southern Medical Association a few years ago. He has done some extensive experimental work with ox fascia, and is still most enthusiastic about it. I also had a let-

ter from Dr. Stone, of Baltimore, who too, is still enthusiastic. At Lahey's Clinic, Taylor and Anniston have done a small series with ox fascia as compared with autogenous fascia, and they are inclined to believe their results are somewhat better with ox fascia. Dr. Kohler, of New York, seems to think the results are about equal. The ox fascia is much more easily obtained, obviates an extra incision and shortens the operative procedure, so if it proves to be as satisfactory as the autogenous fascia it should ultimately be the material of choice.

I want to call attention to one technic which I don't believe is being used in the repair of hernia as much as it should be. I refer to the Halstead operation. I am doing this operation more lately, and have been pleased with the results. The results following the Bassini are too uncertain. The Andrew's imbrication technic has been fairly satisfactory, but even with this operation there will be a certain per cent of recurrences. If we are not timid about transplanting the cord beneath the subcutaneous fascia and do the operation as first described by Halstead, a large per cent of difficult hernias can be repaired satisfactorily without the use of fascia. I think there will always be certain recurrent cases, and even primary cases that can best be repaired by the use of either the autogenous or ox fascia suture.

DR. JOHN W. SIMMONS (Brunswick): I had the good fortune to hear Dr. Egan deliver this paper before the Eighth District Medical Society last fall. I had the opportunity of doing three operations for industrial hernias recently, using the ox fascia. I am sure my technic was not exactly as Dr. Egan has described, and I am still awaiting the ultimate outcome, expecting possibly the recurrences which may not occur.

Dr. Grove's facetious remark regarding the recurrence of these hernias reminds me of the conversation that took place between the supply man and myself when I was buying the ox fascia sheets and the strips for these operations. I swelled up and told him that so far as I knew I had never had a recurrence of a hernia I had operated on. He said, "You possibly will never find a recurrence, because they do not usually go back to the man who operated on them. Most often they do not go back to anybody. They simply come here and get me to fit them with a truss."

Nevertheless, it has been my good fortune to follow up these cases, and I find that I have not had, with the fascia repairs, as much trouble as sometimes occurs with the mass of heavy chromic gut or kangaroo tendon or other suture materials we once used, and I have had no breaking down of the superficial structures, or the little discharges that sometimes irritate us in the formation of a larger scar externally, but these wounds have seemed to close without any serous effusion, without any marked traumatism to the local tissues; and I think we have found in the use of the ox fascia, repair material that lends itself to kindly

association with the natural tissues of the body and does not act so much as a foreign body, and does not produce the local irritation, and allows of a more natural approximation with the material that the tissues accept, with firmer unions.

I am sure that if most of you will adopt this method as Dr. Egan has described it, and thoroughly fasten the ends of your sutures so they will not slip, as that seems to be the only tendency, you will be pleased with the results, especially in large direct hernias and ventral hernias that are so hard to repair, so hard to approximate, so difficult to maintain in apposition, and so frequently break down from the suture indigestion.

DR. JESSE H. YORK (Atlanta): It has been my pleasure to employ the use of ox fascia in the repair of hernias, particularly on the surgical service at Grady Hospital for the past year. At the onset of the CCC and other federal works projects, we were confronted with a great number of hernia cases at Grady Hospital. Wishing to avoid the monotony of dealing with so many hernias with the usual methods of repair and having become interested in repair by fascial method, it was decided to give the fascial methods proper investigation. Many of the cases were very large, recurring hernias, and the patients had been rejected by the examining doctors when they had made their federal applications. After reviewing the literature, and on account of the very large number of cases, it was decided to use the preserved ox fascia due to the time saving element.

At first we used the ox fascia method in several ordinary oblique hernias, in order to perfect our technic and to observe the results and complications that might occur. After using it on several ordinary type hernias we then began to tackle the unusual recurrent and large hernias, and were very much gratified by our results. In the unusual type cases, that is the large direct, the large ventral, the large umbilical and some of the very large indirect, with protrusion into the scrotum, we have had unusually good results.

There are two or three little points not yet mentioned in discussion of Dr. Egan's paper to which I should like to call attention which are of interest. It is a well known fact that heterogenous tissues, do not take in a living state. According to Koontz the reason we do not get a foreign protein reaction in the use of preserved ox fascia is that the antigen of the ox fascia is killed by the use of alcohol as preservative therefore rendering it an inert material. The first ox fascia as used by Koontz was preserved in alcohol by himself, with the addition of an aqueous solution of mercurochrome as a germicidal agent. Johnson and Johnson have substituted biniodide of mercury as a germicidal agent. In Koontz first cases he was confronted with large serum accumulations due probably to tissue irritation from preserving agent.

Our experience has been over a period of more than a year. Our cases have been observed at one month,

three months and six months post-operative, the oldest case being about twelve months old. Our results have been very good and we have had no recurrences, no complications or unfavorable sequellae. Some of these cases were double hernias.

Dr. Egan is to be congratulated upon his fine work and excellent paper. And although I am less enthusiastic as regards its use in all hernias, I feel that it is the suture of choice in large, unusual or recurrent types. It has not yet acquired the popularity it deserves, probably due to lack of information. Fascial sutures constitute a most noteworthy contribution to our surgical armamentarium.

DR. C. F. HOLTON (Savannah): For the past several years I have had an opportunity to do a large number of hernias, most of whom were employees of a railroad. Dr. Simmons said most of our recurrent hernias do not come back to us, but when they work for a railroad and have free hospitalization, they come back. We have had opportunity to check up on these hernias, and in using the old-style operation we have had very few recurrences. In the past two years I have done approximately fifteen ox fascia repairs. I have seen no recurrences, and in my opinion the ox fascia is equally as good or better than the autogenous fascia. Certainly there is a time-saving element in using it, and it leaves much less disability to the patient than taking fascia from the thigh.

I think that regardless of the method used in the repair of a hernia, there are three cardinal principles which must be observed if you expect to get a cure. They must not be lost sight of, regardless of the material used. They are: a high free dissection, the approximation of tissues without undue tension, and absolute hemostasis.

DR. M. J. EGAN (Savannah): I want to thank the gentlemen for their generous discussion, and say a few words in closing.

It has been said that "we will never have an ideal suture for hernia, unless a suture is found that will become incorporated as part of the tissue." In ox fascia we have this suture. The important thing about hernia is to prevent recurrence, so that we will not have to be using methods to cure recurrent and large hernias, therefore on the last three or four patients, with simple indirect inguinal hernias, I have used ox fascia, because I believe I am going to lessen my incidence of recurrence in hernia. The serum that collects in the wound has been attributed to a number of things. Most often it is said that we have a foreign body reaction. I believe that this serum collects in the wound mostly in large hernias, due to the extensive dissection. When we make an extensive dissection in the abdominal wall anywhere, for anything, we are apt to have a collection of serum, and in hernias where we expect this, it is always well to have a drain near the dependent part of this dissected tissue and leave it for a few days to drain the serum off.

POOR APPETITE IN CHILDREN*

WILLIAM KISER, JR.

Atlanta

Poor appetite in children is one of the common complaints with which the physician has to grapple. This symptom is generally thought of as related to chronic illness and malnutrition. On the other hand, it often points to trouble in the domain of mental hygiene.

The sensation of hunger appears at fairly regular intervals during the day. It is the result of a physiological process initiated by contractions of the empty stomach. If food is offered before the stomach is empty, the mechanism of hunger has not been set in motion. The child has no appetite. This is the situation when the interval between feedings is too short. Again food may be retained in the stomach longer than the usual time because of a high proportion of fat in the diet. Even with the stomach empty the appetite may be headed off by an impatient mother. Instead of letting the appetite take the lead, she begins the meal by urging the child to eat.

Eating under any of these circumstances is a passive act. There was no hunger for food. The food eaten brought no satisfaction. Consequently, food is not valued by the child. He eats, but because of pressure from without, not to satisfy an instinctive craving from within.

Intense emotion brings the activity of the stomach to a standstill and smothers the sensation of hunger. Fire, flood, or ferocious animals are usually thought of in connection with intense emotion. There are lesser cataclysms in the child's daily life which rouse his emotions just as violently. During these crises the stomach suspends operations, sometimes for the day and the sensation of hunger goes unheeded. Sometimes the presence of emotional tension may not be so obvious. For example, a boy of five years had no appetite at all. On several nights each week he vomited. Food taken at lunch could be recognized in the vomitus. This clearly

showed the stomach had stopped work. It was finally discovered that he was being intimidated by the nurse. When she was dismissed the appetite improved and the vomiting stopped. The emotion need not be unpleasant. Excitement at table caused by loud talking, people moving about or the radio, can inhibit the appetite. In some homes this seems to be the usual state of affairs. Fatigue is another factor of great importance. A horse is always given a rest before he is fed. Yet so often a child is dragged in from active play and told to eat. Some children come home after the weary hours in school literally too tired to eat.

The influence of chronic disease upon appetite is well known. Conditions commonly seen are septic tonsils and adenoids, anemia, dental caries and pyelitis. Sinusitis is important and is sometimes overlooked.

There is a rather large group of children who are constitutionally predisposed to poor appetite. These are the lean, lanky youngsters who belong to the linear type. Lucas and Pryor, in a study of 110 children with anorexia, found that 82 per cent of them had this slender body form. The bony framework is delicate, the subcutaneous fat is sparse, the chest long and narrow. The thin appearance of these children should not be confused with malnutrition. Besides the narrow type of body build these children have certain physiological characteristics which have an important bearing on appetite. Sauer has found that the acid content of the gastric juice is reduced and that the stomach is slow to empty. In his group with poor appetite the average emptying time of the stomach was six hours. For the normal group the time was four hours. The nervous system of this type of child is especially labile. He is overactive and easily fatigued. Paradoxically with the onset of fatigue his activity becomes more furious. This unnatural "pep" is often not recognized as evidence of fatigue. Furthermore, he is irritable and has poor emotional control.

The mother of this thin child who will not eat adds her well-intentioned efforts to his troubles. Humiliated by his skinny body, she robs him of his natural appetite by urging him to eat. Unaware of his laggard stom-

*Read before the Medical Association of Georgia, Atlanta, May 8, 1935.

ach, she plies him with foods rich in fat and these too many times a day. Worn out by his incessant activity, she constantly nags. This keeps his emotions stirred up and adds to his fatigue.

When these factors which cause poor appetite have operated for a sufficient period of time the child becomes trained to resist food. If, for example, the resistance was originally caused by the mother's urging, the child forms associations with other things about the mother. In time any one of these, such as the sight of the mother, the sound of her voice or even the knowledge that she is in the house will bring out the resistance to food. This is the basis of the common situation in which the child will eat for the cook but not for the mother. A girl of two years was in a hospital being trained to eat. She was making good progress with a meal when her mother came into the room. The child's expression immediately changed. She put down the spoon and refused to take any more of that meal. Another girl would not eat at home, but when her food was sent to a neighbor's house she ate readily. An extreme example is that of a child of two years who had been forcibly fed and brutally treated. He firmly refused to eat anything and would not even touch a spoon. These associations can become firmly established in childhood and persist even into adult life. These conditioned inhibitions are developed independently of the will. They are beyond voluntary control, and it is unkind to accuse the child of being deliberately stubborn.

Mothers are worried about anorexia because they fear it will lead to malnutrition. Many patients with poor appetites are really fairly well nourished. Some are even chubby, yet mealtime is a battle royal. The cases of actual malnutrition occur chiefly in the linear group.

The requirements of the proper treatment are now apparent. The child is allowed to feel the pangs of hunger. He next makes the discovery that eating satisfies this inner craving. Consequently food will have value for him. Meals are served in a room where the child can be alone. This shields him from distracting noises and spares the mother the temptation to coax. To make it quite

clear that mealtime is his one opportunity to eat, the dishes are removed after ten minutes. This is done whether he has finished or not. Nothing is said about food at any time. Usually a few meals are missed but soon the child learns the lesson. Subsequently the quantity of food is gradually increased and a longer period of time allowed.

The diet is arranged so as not to delay the emptying of the stomach. It should contain a minimum of fat, a moderate amount of carbohydrate and a liberal quantity of protein. The suggestion of Aldrich that milk be omitted is very helpful. Lucas and Pryor have replaced milk by a quart of fruit juices. The meals are at least five hours apart and only fruit juices are allowed between.

When the patient is malnourished, irritable or fatigued it is important to reduce his activity by rest in bed. Besides making the calories go further, this protects him from many fatiguing excitements.

The majority of children respond to this plan of treatment. Very rarely is seen a feeble child of the linear type who simply does not get hungry. This patient is put to bed and spoon fed. The attendant must maintain a calm and firm but kindly manner. It is made clear to the child that he is expected to eat the food. Such patients are usually suggestible and with a good nurse much progress can be made.

Poor appetite often appears as part of a general behavior problem. A girl of 11 years was studied because of her resistance to food. In addition to this it was found that she was quite dependent on her mother. Her mother had to help her dress, help her bathe, help her with her lessons and at mealtime she tried to make her eat. The mother was one of those large aggressive women accustomed to doing things thoroughly. She did them so thoroughly that the girl had never learned to do anything for herself. She had robbed her of all initiative and sense of responsibility. By keeping her tied to her apron strings the mother was blocking her development as an individual.

An immature mother who had been brought up in this fashion had a seven-year-old son who presented a contrasting picture. He resisted food, but in a more aggressive

manner. His mother urged and coaxed him at mealtime. Frequently he spit out the food or threw it at her. When angry, he struck her or shouted at her abusively. When his wishes were refused, he lay on the floor kicking and screaming. This little mother usually gave in to the child in everything. She behaved as if she were the slave of a dragon. From time to time she made feeble efforts to discipline him. This always brought on a tantrum.

These cases illustrate two common types of reaction seen in children who are improperly handled. The girl was made dependent by her dominating mother. The boy was made insolent by the indulgence of his mother. In both the chief complaint was poor appetite. Poor appetite was only one of the symptoms and behind it there was trouble of a far more serious nature.

There is a general notion that these things are due to inherent wickedness in the child. However, both of these children behaved differently in other situations. The girl was sent to a camp. In camp she took care of herself satisfactorily and even ate quite well. The boy, while visiting friends, behaved like a human being.

This suggests the conclusion that there was something in the atmosphere at home which encouraged these children in their wicked ways. Growing up in this atmosphere such patterns of behavior tend to become fixed.

In adult life the girl will be inadequate, unable to do things or make decisions for herself. She will be handicapped in bearing the responsibilities of a home. The boy will expect from others the same treatment which he got from his mother. His frequent disappointments will be shown by tantrums. Both of these will have a feeling of inferiority. The girl will protect herself by shrinking from difficult situations. The boy will defend himself by a cocky aggressive manner. These unhealthy attitudes form the background for failure, unhappiness and mental illness.

Nothing is accomplished by railing at the mothers of such children nor can they be extirpated like a malignant growth. The mother herself now becomes the patient. By sym-

pathetic and tactful questioning some insight into her own problems can be obtained. On the basis of this knowledge she can often be helped to a happier solution of her personal troubles. Then she will be in a position to take a more healthy attitude toward her child.

Summary

The appetite can be interfered with by a number of factors, chief of which are chronic illness and faulty management. The child with the linear type of body build is especially predisposed to poor appetite. A plan of treatment has been outlined.

When poor appetite is a symptom of a behavior disturbance, the underlying problem should receive appropriate treatment.

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Discussion on Paper of Dr. William H. Kiser, Jr., Atlanta

DR. JOSEPH YAMPOLSKY (Atlanta): All of us enjoyed the paper of Dr. Kiser, in which he stated some of the causes of and some of the cures for anorexia in children. I should like to summarize some of the causes for which children come to my office and complain of this. First the complaint is, "too tired to eat," or "fatigue." This is a curse of our civilization, that exists now more than ever. Second, "irregular eating, too little breakfast and too much dinner, sometimes irregularity between time of meals, and nibbling through the day." The third is the state of the childish mind. You have heard children say they would rather play than eat. Next, it is surprising to see how little children will complain of unhappiness and worry. The simplest things will make them unhappy and cause them to lose their appetite. Fourth is drugs. It may be too much coffee and tea, or, if they are older, too many cigarettes. Next, the old-time method of having the kitchen close to the dining room was one of the greatest causes for building up an appetite. We do not have that today, with the big homes. The smell of things baking sometimes gives you an appetite. You would be surprised how many children do not get the aroma of home cooking, and many times they are taken to big restaurants. In children's camps, the children eat better than any place else. They are just surrounded by cooking, and other children, and they eat better.

The mother tries to force her child to eat, and she is never successful, and the result is the child probably loses all desire for eating. They come to us and ask us to find some cause for their not eating.

The next thing is to avoid food aversions. We like to talk our troubles over at the dining room table, and everybody has a complaint about some food he does not like. The child learns to dislike something. Pop-eye has changed America as far as spinach is concerned. When you sit down at the table and tell children you do not like food cooked this way or the other way, the result will be the same with them.

I should like to refer especially to medications in food. Some people give children cod liver oil in milk, or castor oil in orange juice. Many children cannot eat, because of that.

I believe a cause of anorexia is where people have one child and are so well-to-do that they forget to think about him. You have very little trouble with the average poor child in the clinic, but with the others, it is a difficult thing to do anything with.

DR. W. L. FUNKHOUSER (Atlanta): One of the most frequent and chief complaints that a pediatrician has in his office is a child not wanting to eat. If we can find the cause and get the proper cooperation, these cases usually respond promptly to management. It is first necessary to determine whether there is a physical basis that is responsible for this child's failure to eat. From my experience, if everything is found negative, they fall into one of three groups.

There is the overweight child, who does not eat as much as his mother thinks he ought to eat. His metabolism and general condition are such that he gets a sufficient amount of food to maintain his normal growth and development, but not as much as the mother thinks he should.

Then we have the next group, where the child does not eat because he is constantly nibbling through the day. His caloric requirements are more than met, because he eats ice cream cones and candy and cakes, and he consequently eats very little at meal time.

The third group is the one that I think causes our greatest problem, and that is the child who really is underweight but refuses to eat, and who is begged, bribed, persuaded, forced, or punished to the extent that he has an abnormal psychological attitude toward food; therefore, food he thinks is something that must be forced down. This case requires a very detailed study of the child's daily routine, to find out where the error is. It may be in the nurse, it may be in the mother, it may be in the entire home atmosphere. And this condition must be found and corrected. This is a preventable problem, and if we would put as much effort on the mental hygiene of the child as we do the physical hygiene, we should have very little of this problem to deal with.

DR. WILLIAM H. KISER, JR. (Atlanta): I want to thank the gentlemen for their discussion. It does seem that civilization brings many advantages, but it often interferes artificially with certain normal processes. The false ideas of health, or at least the health propa-

ganda, have done a good deal of harm by inducing mothers to stuff their children. With many the daily quart of milk is a legendary obligation.

Another bogey is found in conception of ideal weight. The schools and physicians use weight tables and the mother thinks the child must be the same number as the number on the table. Some of us are tall and some of us are short, and you cannot expect every child to reach that same exact number. I think those things make an undue impression on the mother.

Another thing that comes to me is that there is something soft about our present social structure. I have heard grandmothers talk about the time when they were girls and were fed the back of the chicken, and nowadays the children get the white meat and it has to be ground up for them. So many mothers seem to be raising their children to be dependent. That seems another disadvantage of civilization.

The hopeful side is that all physicians have a real opportunity in this regard. Those who see adults can encourage them to bring up their children properly, and those who see the babies can begin with the mother when the baby is very young and gradually educate the mother to the correct attitude.

SPOTTED FEVER IN CHILDREN

Monograph by E. M. GREENBERG

and E. D. PIVOVAROVA, Kraev Institute, Russia

This interesting monograph written in Russian gives the high lights of spotted fever in children as found in Russia. Apparently it is a rare disease in that country and presents diagnostic difficulties especially in children at an early age. Temperature variations are very wide and temperature usually falls with recovery on the 12th or 15th day of the disease. The spots appear on the 5th to 8th day and disappear between 9th and 14th day. Reddening of the mouth is rare and less intensive than in mature patients. There is slight anorexia and the liver is rarely enlarged. Complications in the respiratory organs appear as late as the 15th day of the disease and have no decisive value as to the prognosis of the case. The heart beats are usually slow and the systolic pressure is usually raised at the end of the disease while the diastolic remains somewhat low.

Complications are rare in children and cutaneous diagnosis can be made with the toxin Proteus X-19. In most cases the injection of the toxin solution, 1-.05, which is about 3/9 cc. subcutaneously will result in a red spot at the place of puncture if no spotted fever is present. Should the patient be found to have this disease no reaction will be seen. Laboratory investigations indicate that there is an increased coefficient, KCa, absence of free hydrochloric acid in the gastric secretions, and a negative skin reaction to purified toxin of bacillus Proteus X-19. Abstracted by Joseph Yampolsky, M.D., Atlanta.

THE TREATMENT OF EMPYEMA IN CHILDREN BY ASPIRATION*†

C. M. BURPEE, M. D.

Augusta

During the World War the attention of the medical profession was forcefully called to the high mortality of empyema treated by incision and tube drainage. The average mortality was 30 per cent and in some hospitals as high as 70 per cent. The highest mortality was in those patients who were operated on as soon as the diagnosis was made. When the operation was postponed until the effusion became purulent the mortality was considerably reduced. This gave sufficient time for adhesions to form and the inflammatory infiltration of the pleura rendered the pleural cavity less elastic so that when it was opened there was not such a great change in the anatomical relation of the contained organs. This prevented the displacement of the mediastinum to the other side with collapse of that lung diminishing the respiratory and cardiac embarrassment as well as the shock seen after open drainage. The pressure symptoms in the meantime being relieved by repeated aspirations.

Until recent years the statistics on empyema in children have shown a very high mortality rate when treated by open drainage. Kassowitz¹ reported a mortality of 6 per cent in 50 cases treated by this method. This is one of the lowest reported. Graham² reported a mortality of 11 per cent in 34 cases. Todd and Cutler³ 12 per cent in 154 cases. Farr and Levine⁴ reviewed 371 cases and reported a mortality of 19 per cent. In Wilensky's⁵ 200 cases there was a mortality of 28 per cent. Scott⁶ reported 26 cases with a mortality of 40 per cent. Spence⁷ in 204 cases under 3 years of age reported a mortality of 64 per cent. Finkelstein⁸ reported a mortality of 73 per cent in 40 cases under 9 months of age. Cameron⁹ reported the appalling mortality of 73 per cent in 52 cases under 2 years of age. Regardless of where we gather our

statistics we find that prior to 1927 the mortality was universally high. At the Baby's Hospital in New York, from 1903-1913, the mortality under 2 years of age was 37 per cent. At Bellevue, from 1920-1924, it was 34 per cent. At the Children's Hospital in Boston, prior to 1924, it was 35 per cent. At Johns Hopkins Hospital, from 1889-1927, it was 29.6 per cent, and from 1927-1929 it was 22.2 per cent. In the past six or seven years a great amount of progress has been made in the treatment of empyema in children. The statistics from almost all sources show a marked reduction in the mortality and this seems to be to a large extent independent of the method used. Graham²⁰ reported a mortality of 11.2 per cent in 116 cases treated at the St. Louis Children's Hospital from 1925-1930, by the method of aspiration followed by open drainage. His highest mortality was under two years of age where it was still 22 per cent. After 2 years of age his mortality dropped to 6.2 per cent. Rentschler¹¹ reported a mortality of 10 per cent in 100 cases treated by open drainage. His highest mortality was in infants and in children past 12 years of age. Hart¹² reported 36 cases treated by means of a closed method with tidal irrigation and suction with a mortality of 14 per cent. McEachern¹³ reported 75 cases treated by closed drainage and irrigation of the empyema cavity with a solution of chlorinated soda with a mortality of only 2.66 per cent. Brennemann¹⁴ reported 94 cases treated by aspiration with a mortality of 12.8 per cent. Danna¹⁵ reported 35 cases treated by aspiration with air replacement with a mortality of 5.7 per cent. However, he treated no cases under 3 years of age, and most of his cases were past 12 years of age, only six being between 3 and 12 years of age. Ochsner and Gage¹⁶ reported 26 cases all over 11 years of age treated by Danna's technique reported a mortality of 10 per cent.

From the above statistics one may see that the mortality is not only much lower than that of former years but it approaches a level that appears to be quite uniform regardless of the method employed. This reduction in mortality is thought by most men to be due to the recognition of the fact that empyema is not a condition requiring an immediate

*Read before the Medical Association of Georgia, Atlanta, May 8, 1935.

†From the Department of Pediatrics, University of Georgia School of Medicine, Augusta.

operation rather than to any one method which might be thought to be superior to another.

In the fall of 1930 we started treating our cases of empyema by aspiration as recommended by Brennemann. To date we have treated 26 cases by this method with only two deaths or a mortality of 7.6 per cent. In only four cases, or 15.5 per cent, was it necessary to resort to open drainage later. Most of these cases were treated on the pediatric wards of the University Hospital, but a few have been treated in their homes or in the emergency room of the hospital.

The two deaths in our series were in no way due to the method of treatment as one died a few days after admission to the hospital from a generalized peritonitis, and the other died of a streptococcus septicemia. These patients lived only a few days after admission to the hospital, and as both were in such poor condition at the time of admission it was thought best to try aspirating the chest rather than subject them to an operation. If these cases are excluded, since they would have died regardless of the type of treatment, then our mortality would be nil in the remaining 24 cases treated by aspiration.

In the beginning we followed Brennemann's technic. The aspirations were done under local anesthesia with strictly aseptic technic. The skin was sterilized with iodine and alcohol and the chest wall over the fluid was infiltrated with 1 per cent procaine. If the patient was able to sit up the needle was introduced at the lowest level of the fluid as determined by the physical signs. In those patients who were too young or too sick to sit up they were aspirated while lying down. A 16-gage needle and a 50 cc. syring were found to be most satisfactory for this work. A number of our first cases developed small subcutaneous abscesses that were incised and drained. In an attempt to obviate this condition 95 per cent ethyl alcohol was injected along the tract of the needle as it was withdrawn. This was apparently without benefit as a number of cases developed these abscesses after the injection and it was discontinued.

Our patients ranged in age from five months up to twelve years and 89 per cent

were five years old or younger. Four cases, or approximately 15.8 per cent, were under one year of age. Three of these responded beautifully. Two of the cases required only two aspirations and another only four. There was one death in this group and that was due to a streptococcus septicemia. Only two children under five years of age required open drainage later. The other two cases requiring it were seven and ten years old, respectively. Our results have been such as to lead us to believe that the younger patients respond better to aspiration than do older children. However, we realize fully that the number of cases in our series is entirely too small to draw conclusions from. Brennemann arrived at the same conclusions in his series of cases so treated.

The frequency of thoracentesis was determined by the temperature curve, physical findings, general condition of patient, and where indicated, x-ray examination. The average interval being about three to four days. In patients who had large amounts of pus in the chest and in those who appeared quite toxic we aspirated more frequently in the early treatment. As the condition of the patient improved the aspirations were done less frequently. Where the temperature curve continued to remain high or to be septic in type, we continued frequent aspirations until the curve dropped to normal and remained so. In most cases this occurred as soon as most of the pus was removed from the chest. As soon as the temperature curve started going up again the aspiration was repeated. In our experience the temperature curve has been an excellent guide as to when to repeat the aspirations. As long as there is very little pus in the chest the curve tends to remain normal unless there is some other infection elsewhere in the body. When the temperature remains high and no pus is obtained on aspiration it is well to examine the patient thoroughly for other infections. Frequently this will be found in the middle ears and occasionally in the genito-urinary tract. In the cases where no other infection could be found we have invariably found walled off pockets of pus that did not communicate with the one that was being aspirated. Usually, as soon as the pus quits forming in the chest

the temperature drops to normal and remains there.

The amount of pus that was aspirated at any one time varied according to the condition of the patient and the amount we were able to obtain without producing discomfort to the patient. The largest amount of pus removed at one aspiration was 800 cc. There was no discomfort noted following the removal of this amount, rather there was a sense of comfort and well being for a number of days following. On an average 200 cc. to 300 cc. of pus was removed at an aspiration in older children and 100 cc. to 200 cc. in the case of infants. The amount of pus aspirated usually decreased with the number of aspirations, and in many cases the last aspiration became blood tinged. When we were no longer able to obtain larger amounts than 5 or 10 cc. of blood tinged pus we discontinued the aspirations as almost invariably the next one would be a dry tap.

The number of aspirations for each patient has varied from two to forty-four, being on an average of ten. We continued aspirating the patient that was aspirated forty-four times to see if she could be cured by this method if it was continued long enough. This patient continued to run a high temperature so she was aspirated daily or every other day for several weeks until her temperature curve remained normal. A total of 3640 cc. of pus was removed over a period of ten weeks with complete recovery. Only five of our cases were aspirated more than eleven times, and four of these were later treated by open drainage, as we felt that even though there was a possibility of curing these cases by aspiration the treatment would be unnecessarily long and that open drainage offered the best results. As we have followed this method of treatment we have become convinced that those cases of empyema that fail to respond after ten or eleven aspirations do much better when treated by some other method, such as open drainage, because continued aspiration would prolong the treatment and no one wants to delay recovery unnecessarily. The smallest number of aspirations were in an infant five months of age and a child four years of age, both requir-

ing only two aspirations; 135 cc. of pus being removed from the chest of the five months old infant and 425 cc. from the four year old child. Recovery was rapid and uneventful in both cases.

The total amount of pus aspirated from any patient varied from 135 cc. to 3730 cc. being on an average of 1289 cc. As a rule, less pus was obtained from the younger patients, but we had one case three years of age from whom we obtained 3380 cc., and another three years of age from whom 3640 cc. was obtained and one four years of age from whom 3730 cc. was obtained. We believe where large amounts of pus are obtained at frequent intervals that these patients will do better if treated by open drainage, as 60 per cent of our cases from whom we obtained large amounts of pus at frequent intervals required open drainage at a later date.

The pneumococcus was the organism present in the majority of our cases, being found in 60 per cent. In one case a staphylococcus was present with the pneumococcus. In 22 per cent of our cases the organism was not determined. Staphylococcus was present in 11 per cent and streptococcus was present in 5.5 per cent, and in 5.5 per cent of the cases the pus was sterile. In all of our cases that later required open drainage the pneumococcus was the causative organism. In one case the staphylococcus was present with the pneumococcus. In the two cases that died the streptococcus was isolated from the pus in one case and in the other the pus was sterile. In our four cases under one year of age the pneumococcus was present in two, the staphylococcus in one and the streptococcus in the other. The case with the streptococcus was a case of septicemia.

Pyopneumothorax occurred in most all of our cases following aspiration. At first we attempted to prevent it, but finding that it was harmless and beneficial in aiding complete evacuation of a pus pocket, we made it a practice to inject air into the cavity as the pus was removed. It is also an aid in determining the fluid level in x-ray films. However, we do not believe it to be necessary for a cure, as we had a number of cases that never showed air in the films, but who made rapid and uneventful recoveries. We are

equally certain that it is harmless, for we did not observe any untoward symptoms in any of our cases of pyopneumothorax. We are not certain that it delays recovery, nor are we certain that it shortens the period of recovery. We had cases that recovered rapidly following it and others that required open drainage to bring about a cure. However, we are at present replacing the pus with air in all of our cases, so that at a later date we may have more definite knowledge on this phase of the treatment. While we feel that almost complete evacuation of a pus pocket is desirable, it is certainly not necessary for a cure. Brennemann has shown in his studies that large amounts of pus can be left in the chest to be absorbed without harm. We concur in this opinion. We have had a number of cases who had fairly large amounts of pus left in their chests, and when they were re-examined later the pus was found to have been absorbed. Nevertheless, we make it a practice to remove as much pus as possible because we feel that the more completely the pus is evacuated the quicker will be the response on the part of the patient.

Where a patient is making a very slow response to this type of treatment, transfusions of whole blood are most beneficial. We have had a number of patients whose progress seemed to be at a standstill who almost immediately improved following one or more transfusions and went on to a complete recovery. All measures that tend to improve the general health of the patient should be employed. When the temperature is normal we permit these children to be up and play with other children, under close supervision so as to prevent over exertion. Fresh air and sunshine are desirable at all times as in all other illnesses in childhood. The association with other children adds much to the happiness and pleasure of these children which is so important for recovery.

The chief objections to this type of treatment seem to be due to the fact that some men believe that complete emptying of the pus pocket is not only desirable, but absolutely necessary in order to cure empyema, and that this is impossible under this method, because of the large amount of fibrin that is frequently present, and because one can not

see when the cavity is empty. A number of other objections might be mentioned such as the reaction of the patient to numerous aspirations; the danger from absorption of pus; a longer period of hospitalization; and more frequent examinations. That these objections are more apparent than real soon becomes obvious to any one treating empyema by this method. Where we have encountered numerous small pockets of pus or large masses of fibrin we have waited a number of days until the pockets united and the fibrin became liquified. We have found that this usually takes place in a few days. We have never had to aspirate more than three pockets in any of our cases and we believe that had we waited longer these would have soon become a single pocket, as it was only necessary to aspirate them once or twice. If sufficient care and proper precautions are taken to assure a satisfactory local anesthesia and to allay fear in the child you will find very little objection to this type of treatment on the part of the patient. As to the length of time these patients have to stay in the hospital I will simply say that it is not absolutely necessary to have them in the hospital. They may be treated in their homes. The average stay in the hospital in our cases was 61 days. This included the time for those cases that were treated later by open drainage after they had been treated by aspiration. The shortest stay was six days and the longest 128 days. Our first cases were allowed to remain in the hospital for 30 days or longer for observation, but after watching these cases we found it was not necessary to keep the patients in the hospital for such long observation periods and the later cases were referred to the out-patient department for observation.

That this type of treatment really cures empyema may be seen from our statistics; 76.9 per cent of our cases being cured by aspiration alone and 15.5 per cent recovered after open drainage following aspiration without complications. In none of our cases was there any permanent deformity. The sinking in of the chest and the sagging of the shoulder on the affected side persisted for a number of months, but eventually disappeared. X-ray examination of the chests of these patients at later dates showed complete

expansion of the lung with no evidence of any residual pathology.

Summary

Twenty-six cases of empyema in infants and children treated by aspiration are reported. Twenty (77 per cent) of the patients were cured by aspiration without an operation. Four (15.5 per cent) of the patients were later operated on with no deaths. The mortality in this group of cases was 7.6 per cent. The patients ranged in age from 5 months to 12 years.

The pneumococcus was the organism present in 60 per cent of the cases, and in all the cases that later required open drainage. The staphylococcus in 11 per cent and the streptococcus in 5.5 per cent. In 5.5 per cent the pus was sterile.

The average number of aspirations was 10, and the average stay in the hospital was 61 days.

In a few cases small subcutaneous abscesses developed that were drained, otherwise no complications developed. In no case was any permanent deformity noted.

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Discussion on Paper By Dr. C. M. Burpee, Augusta

DR. DON F. CATHCART (Atlanta): During the past years the treatment of empyema in infancy and childhood has run the gamut from severe conservatism to stark radicalism, with all variations in between. Many of you, I am sure, have seen on many occasions the tragic, emaciated children who, through neglect or ill treatment, have been allowed to lapse into a state of chronic empyema and even after proper care and at-

tention carry the stigmata of the so-called watchful waiting or conservative treatment. On the other hand many of you have seen operative measures effected too soon after the detection of fluid in the pleural cavity, and again the results have been uniformly bad. It must be remembered that the distinction between an empyema and a serofibrinous effusion is of great importance therapeutically as well as prognostically.

I wish to heartily agree with Dr. Burpee in that it is well in treating empyema in infants and children to wait a reasonable time after the formation of fluid in the pleural cavity for coalescence and pus formation. Due to the anatomical structure of the infant and childhood chest pleural exudates tend to follow the lung margins and it is not until a later time, when the adhesions have been absorbed, that the fluid gravitates to the dependent portion.

When empyema has developed it should be regarded as an abscess to be evacuated and the criteria should be "early and adequate drainage" with stress on the "adequate." The question that arises in many minds seems to be, "Is aspiration adequate?" A noted surgeon has dogmatically stated that aspiration should not be done if empyema is proven by physical findings and that immediate open drainage should be instituted. Certainly this seems to be a radical position to assume. Other men equally as noted have advanced the aspiration treatment of empyema as the method of choice and if failure results, open drainage may be resorted to.

One universal criticism of the aspiration treatment is the always present possibility of chest wall cellulitis and abscess formation. This is a just criticism and does occur even with the best technic and care. It is well, however, to remember that the same condition occurs at times with punch or open drainage.

We have used the multiple aspiration treatment of empyema at Grady Hospital in several cases where thought advisable. We have had thorough cooperation of the surgical staff, and in a few of our cases open drainage has been done when aspiration was not proving to be successful. The pneumococcus at times produces a very thick, tenacious type of pus and it is in this type case that aspiration is not successful.

Dr. Burpee has mentioned the replacement of pus by air into the pleural cavity. This procedure has been carried out with several of our cases and with very striking results in some. The replacement of pus with air serves to put the lung at rest, prevents further pleural irritation in a measure, and tends to keep the fluid at the lowest possible level which in turn aids very materially in the complete evacuation of the pus pocket. In the cases in which adhesions were present it was found that the lung did not collapse as it should and in these cases air replacement was not continued.

We feel that in view of the results we have had, aspiration should be tried in practically all cases of empyema, and that with repeated aspirations a vast majority of the cases will recover completely. If aspiration does not prove to be successful, surgery may be resorted to.

DR. FRANCIS B. SCHLEY (Columbus): I have enjoyed Dr. Burpee's paper, not only because of the excellent results he has shown us to be obtainable by the aspiration treatment of empyema, but he has revived in me a hope that I may get better results from this method of treatment in the future.

It is very convenient for one who is treating empyema to be able to treat these cases by the aspiration method, instead of having to turn them over to the surgeon, with the ensuing period of hospitalization and the increased cost that is incumbent upon some who cannot well afford it.

Two years ago, following a paper that I heard at the Southern Medical Association meeting in New Orleans, I cured two cases of empyema by the aspiration method. The first case was a nineteen-months-old baby with congenital heart disease, who was aspirated twice at weekly intervals with the recovery of eight ounces of pus each time. After two aspirations he began recovery, and he became a well child in the course of several weeks. The second was a negro baby sixteen-months old and gave a history of pneumonia two weeks previous to the time of seeing him. Two ounces of very thick greenish pus was aspirated, and I heard no more until he returned six months later, a fat, well-nourished child, suffering from some other complaint.

These two cases encouraged me greatly about the aspiration treatment, but I had no other suitable cases to treat until last October when I was called to see a child who had had scarlet fever, complicated by hemorrhagic nephritis, lobar pneumonia and a subsequent empyema. He was aspirated at weekly intervals for ten aspirations, with the recovery in all of 2250 cc. of pus. His condition did not seem to improve. The amount of pus recovered each time was practically the same. His weight increased for a few aspirations, and then it seemed to be at a standstill. After ten aspirations, one of the surgeons introduced a No. 14 catheter in the ninth space in the posterior axillary line, at which time his temperature became normal and he began an uneventful recovery.

I have had ten cases of empyema last winter and this spring in my private practice, and the type of infection we have had causing pneumonia in our locality this last season has apparently had a very much greater selectivity for the pleural cavity as a site of complication than in previous infections we have treated.

One boy of twelve was aspirated twice, with the recovery of 1500 cc. of pus each time. These two aspirations were followed by a rib resection and open drainage, with an uneventful recovery. In this particular case, the introduction of air in the pleural cavity, which was allowed to flow in at liberty when emptying the pus, caused a severe cardiac embarrassment when the pus reformed. In one case I could not completely aspirate the chest due to large clots of fibrin which were removed at operation and the fever did not subside until rib resection and removal of these clots with subsequent and complete drainage. One of my cases nineteen months old had a broncho-pleural

fistula with a subsequent subcutaneous emphysema following aspiration and severe cardiac embarrassment from the air introduced through the fistula. He was operated upon immediately because of the fistula and is now recovering.

Dr. Burpee's paper has given me new hope for the treatment of empyema by this method and my lack of success, excepting two cases, is probably due to the fact that I have not persisted long enough in my aspiration treatment. I have one at present that has just developed, which I am going to be less ready to have operated and I hope I will have success in curing her.

DR. CHAMP HOLMES (Atlanta): I am not a pediatrician, but I am interested in this discussion. First, an empyema often is overlooked. In pneumonia, if the temperature becomes normal for two or three days, then rebounds you may assume the presence of an empyema. After a delayed resolution or unresolved pneumonia is diagnosed. This condition is rare. An empyema is common. The physical signs may be confusing or misleading; and the breath sounds in a young child or infant are not those ordinarily described as occurring with fluid. They may be very harsh. I think the most reliable sign in fluid accumulation is a woody flatness of the percussion note.

In regard to treatment, I think it has been aided considerably if not revolutionized by the aspiration method. In considering the mortality rate, which is notoriously high in young children, we should take into consideration that empyema is not a clinical entity but a phase or complication of a more general infection as scarlet fever, pneumonia of the different types and virulence, septicemia and so on.

I think the conclusion we should get from the treatment is: do not aspirate too long before resorting to open drainage, and certainly do not resort to open drainage too soon before you have a definite purulent fluid and a fixation of the mediastinum.

DR. C. M. BURPEE (Augusta): I wish to thank these gentlemen for their discussion of this paper, and I wish to say just a few more words in conclusion.

I do not wish to advocate this as the only type of treatment for empyema. It is the type of treatment that we have used in many of our cases in the University Hospital in Augusta, and it is the treatment that has given in our hands most gratifying results, particularly in infants and young children. When we find that the treatment is going to be unduly long by this method we don't hesitate to resort to some other such as open drainage. We have had to resort to open drainage in only four of our cases. I feel that any treatment that carries such a low mortality is worthy of trial, and particularly since it does not exclude other methods that may be used later. We are going to continue our studies with this method and later we will probably be able to arrive at more definite conclusions.

MULTIPLE MYELOMA

Case Report

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In 1845 Dr. Bence-Jones was asked by Drs. MacIntyre and Watson to examine the urine of one of their patients and tell them what the unusual substance present was¹. He studied it carefully and before the Royal Society in 1847, stated: (1) the specimen had a precipitate which was an oxide of albumin and he was certain it was the hydrated deutoxide; (2) the peculiar characteristic of this deutoxide was its solubility in boiling water: the precipitate being thrown down by nitric acid and heat, disappearing on boiling only to return on cooling. In 1846 Dalrymple in the Dublin Journal gave a full pathologic report of this case under the term mollities ossium, and in 1850 MacIntyre published his clinical notes. In 1873 Rusticky called attention to the involvement of the bone marrow and gave the name of multiple myeloma to this condition and in 1889 Kahler presented a clinical description of the disease and associated the presence of Bence-Jones bodies in the urine with multiple bone tumors: hence it is sometimes called Kahler's symptom complex.

Etiology

The etiology of this condition is a mooted question. There are some who think trauma might play a part, others who think there might be some nutritional disorder of the bone itself. Ewing² states it is difficult to associate multiple bone tumors with any one trauma. It can be said that the disease is usually one of later life, Geschickter and Copeland³ saying 80 per cent of the cases occur between 40 and 70 years with the peak at 45. Males seem affected more often than females in the ratio of 19 to 7. Although this is a disease of middle and late life it does occur earlier and there have been cases reported as occurring in infants⁴.

Histogenesis

The definite cell of origin has been variously discussed by many authors. Williams⁵ thinks that, since in myelomatosis the bone

is so much more readily resorbed than in any other bone tumor, the osteoblast might be considered the probable cell of origin. Scott, Stanton, and Porter⁶ disagree with this on the grounds that, "(1) the osteoblast very early appears as a distinct cell type; (2) in the tumor tissue the early tumor cell stages more closely resemble the other early blood cells than the osteoblast; (3) no bone-repairing properties of the cell were observed," and they think the tumor plasma cell is a derivative of the reticular cell of the hemopoietic and general connective tissue and closely related to the lymphocytic series. Flax⁷ states that although the myeloma might arise from any of the embryonic cells of the bone marrow, all but the plasma cell may be disregarded. MacCallum⁷ thinks there are two types of myeloma i.e. the lymphoid or plasma cell myeloma and the myeloid myeloma.

Case Report

A woman of 25, entered the hospital on Dec. 1, 1934, complaining of generalized pains and "kidney trouble."

The patient had always enjoyed fairly good health. In July, 1934, she noticed what she called a tender "gland" about the level of the eighth and ninth dorsal vertebrae and concomitantly an area of anesthesia on the anterior surface of her left thigh. After a few weeks the gland and anesthesia both disappeared and she was feeling fine until the latter part of August when she was found to be slightly anemic. Tonics, diet and rest were prescribed and about the middle of September she was married. While on her honeymoon trip she developed rather generalized aching pains, slight fever and general malaise. She returned home and remained up and about until October 20 when she felt so bad she went to bed. A physician was called; and the urine examined revealed many pus cells present but no albumin. Tests for malaria, typhoid and undulant fever were negative. She continued to have slight fever and was treated symptomatically. Four weeks before admission to the hospital she suddenly developed rather marked swelling and bluish discoloration of her tongue and inability to talk and swallow well. Shortly thereafter she had three profuse epistaxes which were controlled with packing. About this same time she began having fairly severe frontal headaches which later became occipital and persisted until admission to the hospital. Nine days before admission she was cystoscoped; at which time there was found a moderate number of pus cells in the urine. She had had fever of from 101° to 104° from the onset, the white cell count had been consistently elevated, and the sense of pain deep in the bones had been present from the onset in September, 1934.

Physical Examination—On admission she was a well developed, fairly well nourished woman who appeared ill. The skin was hot, dry, and pale; the mucous membranes were normal. The scalp was normal; there was no tenderness over the calvarium or sinuses. The tongue protruded to the left. There was soreness about the third and fourth cervical vertebrae on movement of the neck. The heart and lungs were normal. The abdomen was tympanitic; the liver edge was felt 2 cm. below the right costal margin; the spleen was not enlarged. In the lower abdomen there was a rather large movable mass which on vaginal examination was found to consist of multiple fibroids of the uterus. The right kidney was easily felt, slightly enlarged and tender. The extremities, especially the joints, were tender and motion was painful.

Neurologic examination revealed marked weakness of both lower extremities with loss of tendon reflexes and plantar reflexes, questionable slight diminution to touch especially below the knees and loss of vibratory sense throughout the lower extremities.

Spinal fluid was under a pressure of 180 mm. of water, with marked variation on deep inspiration or straining but no rise with jugular pressure. The fluid had a greenish yellow tinge. There were three cells present. The Pandy reaction strongly positive; Ross Jones was positive; mastic 011234555400.

During the patient's stay in the hospital the red cell count varied from 2,720,000 to 4,120,000, with hemoglobin of from 9 to 13 Gm. per 100 cc. of blood. The white count was consistently elevated and the polymorphonuclears were around 85 per cent. The urine was always of low specific gravity and contained fairly numerous red cells and white cells but rarely any casts. On three different occasions Bence-Jones protein was found in the urine. During her stay she received two transfusions of 500 cc. of whole blood and following each one there were found myelocytes, on one occasion 24 per cent and the other 13 per cent. Calcium determinations revealed 16 to 13 mg. per 100 cc. of blood on separate occasions. The blood sugar was normal, the non-protein nitrogen was consistently elevated. Total serum protein was 11.36; albumin 5.42, globulin 3.77; fibrinogen 2.17. No Bence-Jones protein was found in the blood. Blood culture and spinal fluid culture were negative and the sedimentation rate was 24 mm. in one hour. Toward the latter part of the patient's stay in the hospital there were noted small tumors of the ribs and sternum which were tender to touch but did not pulsate. Suprapubic cystotomy was performed when the patient developed paralysis of the bladder. Five days before discharge she developed diplopia which lasted for two days; eye ground examination at that time revealed no abnormality. During her stay in the hospital she received deep x-ray therapy over the regions where most pain was complained of but there was only slight amelioration of symptoms. Permission to obtain a biopsy was refused.

X-ray Studies—There are multiple areas of rarefaction in pelvis, femur, ribs, sternum, spine, and skull.



FIG. 1

Numerous areas of rarefaction and bone destruction with resorption can be seen. In one place it looks as though the outer table has been destroyed.

Clinical Features

Onset—This is usually manifested by pain which may be intermittent, rheumatic, lancinating or dull. The pain may be generalized or localized and may subside only to recur. It is most frequently in the lumbar or sacral regions and these painful and tender areas seem to coincide with the areas of rarefaction of the bone marrow demonstrable by x-ray. The pain is caused by erosion and pressure on the periosteum and by pressure on the adjacent nerves and tissues which may be diffusely invaded by the tumor.

Blood—The secondary anemia usually present may progress to such a degree as to resemble a primary Addisonian anemia, though in many cases there may be no changes in the blood picture. Rarely there may be an increase in the myelocytes or plasma cells but this has been regarded as evidence of an irritative phenomena or response⁸. Never is the picture of a leukemia seen. Barker⁹ reports a case in which there was the hemorrhagic diathesis associated with an anemia and leukopenia and Short and Crawford¹⁰ suggest the possibility of the anemia being due to an inhibitory effect on the bone marrow by the disease process itself.

Bence-Jones Protein—The etiology, pathogenesis and origin of the albumosuria are obscure. The clinical characteristics are: At about 45° C to 60° C there is turbidity of the urine which may increase to a distinct cloud. The cloud disappears around 85° C to 100° C only to reappear on cooling; nitric acid added to the urine will also produce a cloud or ring at the point of contact. Though not present always, Boyd¹¹ quotes it as being found in 50 per cent of cases. Hager, Roen and Peterson⁴ think that Bence-Jones proteinuria may be present for as long as a year before evidence of bone destruction is had and Short and Crawford¹⁰ report a case in which the Bence-Jones protein was discovered during the routine Wassermann test in which the serum was heated to 56° C and when examined was found to have a milky white precipitate.

Neurologic Symptoms—Though the neurologic symptoms are usually late in appearing they may be the presenting factors and vary from a sensation of pins and needles in various parts of the body to complete paralysis of the transverse myelitis type necessitating the use of the respirator to prolong life. The paralysis may be either of the spastic or flaccid type and is produced by pressure on the spinal cord. Klemme¹² reports five cases with symptoms and signs referable to spinal cord involvement; all patients were operated on and afterward given x-ray therapy with benefit.

Site—The tumors are usually multiple, though there are cases reported of single lesions. The tumors involve those bones most frequently and extensively which have the greatest cancellous content i.e. the ribs, scapulae, sternum, vertebrae and the long bones. Although myeloma is usually considered a primary tumor of the bone marrow there are some who take exception to this view and wonder if myeloma should be regarded as an intrinsic disease of the bone marrow or a disease of the blood forming organs, capable of effecting extra-osseous structures or even originating in them.

Nephritis—This is a fairly frequent complication of myelomatosis, 70 per cent of the Hopkins cases showing evidence of it. The nephritis varies from mild to severe and

is usually non-specific: it gives the picture more often of a nephrosis with extensive disease of the tubules; the glomeruli usually being intact, which is probably the reason for the usually encountered urine of low specific gravity. Bannick and Greene¹³ after studying 13 cases concluded that the usual picture of myeloma with Bence-Jones protein is one of renal insufficiency without hypertension and think the insufficiency is due to tubular destruction with subsequent fibrosis. The kidneys are usually normal in size and of fibrous consistency with the markings between the cortex and medulla indistinct and with considerable scarring of the cortex.

Bone Deformities—A spontaneous fracture may be and frequently is one of the first signs of the disease. The bones most frequently involved are those of the thorax, though any bone in which there has been marked resorption is liable.

X-ray Appearance—The tumors usually multiple are fairly characteristic and are seen as sharply circumscribed and punched out areas of bone destruction with absorption, varying in size from a pea to an orange. It is sometimes difficult to differentiate the different bone lesions and to quote Assmann, "In many cases a definite differentiation is not possible on the roetgenogram alone between osteoclastic carcinoma metastases and multiple myeloma; but, to be sure, the transparencies or defects in multiple myeloma are usually more sharply defined." Ewing's tumor can frequently be confused with multiple myeloma but the age incidence is of some help there. Sarcoma is usually nearer the epiphysis than the myelomatous lesion.

Structure—Grossly the tumor may be soft or firm, translucent or opaque, and whitish gray or deep red according to the vascularity. Hemorrhage, infarction, blood cysts and necrotic areas may be present. Pulsation may be felt in the region of a tumor mass if there is much vascularity. Microscopically myeloma presents a fairly typical picture.

Prognosis and Treatment—The majority of authors agree that the prognosis is that of a hopeless neoplasm and the course that of a malignancy with the termination of the disease marked by anemia, emaciation, diar-

rhea, dyspnea, paralysis, and coma. Treatment is entirely supportive.

Summary

A case is presented of multiple myelomatosis in a young woman 25 years of age. One of the striking features of the case is the appearance in the blood stream of the unusually large number of myelocytes following her transfusions. This, as stated above, was probably due to an irritative phenomena and the myelocytes were washed out into the blood stream by the blood given her. X-ray therapy given over the sites of involvement and pain, though affording slight symptomatic relief, failed to stop the progress of the disease.

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Brasch and Cook in their paper read before the County Medical Society, Albany, N. Y., Feb. 27, 1935, on "Recent Advances in the Treatment of Infections Involving the Urinary Tract," state that none of the drugs seem to have a consistent curative value. They claim that acidification of the urine to a bactericidal degree is difficult to accomplish with drugs alone. They also state that ketonuria usually will eliminate bacillary infection of the urinary tract, providing ketosis is adequate and there is no complication causing reinfection. The diet should be given under the supervision of a trained dietitian which cannot always be done; even then one may get a gastrointestinal complication. This diet is of little value with coccal infections of the adult. With all its limitations the ketogenic diet will often clear bacillary infections in the urinary tract, which other forms of treatments do not cure. Abstracted by Spencer Kirkland, M.D.

OPERATION ON THE PHRENIC NERVE IN THE TREATMENT OF PULMONARY DISEASE*

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Within the past few years the use of artificial pneumothorax and phrenic nerve operations have, through the brilliant results obtained and their relatively simple technique, become so universally used that they have burst from the sanatorium centers and are forcing themselves upon the general practitioners. The inert passive treatment of bed rest in most cases with secondary surgical compression in a few carefully selected cases is rightfully being displaced by active surgical compression in the vast majority of cases. Bed rest still occupies a most important place in the treatment of lung diseases but, in my opinion, it is secondary to surgical rest. My years of experience here at the sanatorium has proven to me that almost every case of plumonary tuberculosis can be definitely benefited by either pneumothorax. phrenic nerve interruption or various combinations of these procedures.

Artificial pneumothorax is recognized as the treatment par excellence in almost every case where compression measures are indicated. It is a flexible, easily controlled, fairly predictable procedure that can collapse 100 per cent of the lung or be discontinued or taken out as the doctor deems necessary. On the other hand, phrenic interruption, with its resultant diaphragmatic paralysis is less certain and uncontrolled. It compresses only about 10 to 40 per cent of the lung and once done cannot be recalled at will. However, where extensive adhesions are present pneumothorax can be established in only a limited percentage of the patients on whom it is desired. Fortunately for these patients phrenic paralysis can be done in every case.

Section of the phrenic nerve was first per-

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formed by Stuertz in 1911 in the treatment of a case of pulmonary tuberculosis. Since then its use has spread widely. Dr. Davis has said that if the results were only half as good as they actually are its universal use would be justified. I certainly agree with him.

Interruption of the phrenic nerve, with its accompanying diaphragmatic paralysis, aids healing of lung lesions chiefly by its mechanical effects. These beneficial effects are brought about by the relaxation of the lung, compression and reduction in volume, and, by the elimination of the pumping action of the diaphragm. Normally, the diaphragm has a piston like action with a variable excursion of several centimeters up and down in the thorax of between 20,000 to 30,000 excursions per 24 hours. Paralyzing the diaphragm stops this excessive motion and, in my opinion, gives more real rest to the diseased lung than the most conscientious bed rest. In addition to this welcome rest the half of the diaphragm paralyzed ascends upwards into the thorax causing a moderate compression of the lung. This is sufficient in many cases to close cavities, thus reducing cough, expectoration, and temperature and brings about a subsidence of other symptoms. There is also a deceleration of the lymph and blood flow from this lung and a consequent lessening of toxemia. Compression is exerted not only at the base but throughout the lung. In fact disease located at the apex or in the upper portion of the lung is benefited as much as in instances where it is located at the base.

Let us consider briefly the anatomy of the phrenic nerve. The diaphragm is recognized as the chief organ of respiration second in importance only to the lungs. Each half of the diaphragm is innervated by its corresponding phrenic nerve. The phrenic, composed mostly of motor fibres, but containing a few sensory fibres also, is formed chiefly from the fourth cervical nerve and gets a few fibers from the third and fifth cervicals. It then courses down the neck in a downward, forward, and inward manner, lying on the anterior surface of the anterior scalene muscle. No other normal nerve in this region has the same course. At the level of the clavicle

it usually lies along the medial border of the anterior scalene while higher up in the neck it is usually found on top of the muscle in a slightly diagonal manner. At the base of the neck it passes between the subclavian artery and vein to the mediastinum. Then through the mediastinum along the lateral border of the heart to its destination, the diaphragm. It is of utmost importance to realize that in at least 20 per cent of cases accessory branches to the phrenic are present and must be sought for and destroyed whenever seen. Failure of phrenic operations to paralyze the diaphragm is probably due in most cases to accessory branches from the spinal cord to the phrenic below the area of operation.

Technique of the operation is as follows: all procedures, instruments, and materials used, are, of course, as strictly sterile and aseptic as if for a major operation. Due to its easy accessibility in the neck it is the site of choice for exposing the phrenic. The patient lies on his back, head on a pillow, hands by his side, and turns his face to the opposite side from the field of operation. The skin and then deeper tissues are infiltrated with 10 to 20 cc. of a 1 per cent solution of novocain. A transverse incision about one to one and a half inches long, parallel to the clavicle, is made about midway between the clavicular part of the sternomastoid muscle and the external jugular vein about one inch above the upper border of the clavicle. The center of this incision is usually over the outer margin of the sternomastoid. This transverse incision being usually in a natural wrinkle or fold of the skin leaves very little scar. The skin and platysma are cut and from then on the operation is done by blunt dissection with scissors at right angles to the skin incision. This exposes the lateral margin of the sternomastoid. One may go through the muscle or along its lateral border. The muscle is retracted inward which, in many cases, exposes the thin posterior belly of the omohyoid muscle running diagonally across the field of operation. Putting a finger in the incision one can easily feel the tense rounded rope like belly of the anterior scalene muscle. Sometimes the phrenic nerve can be felt lying on the anterior scalene long before it is ex-

posed to view. Retracting the sternomastoid and the omohyoid exposes a pad of fat lying under these muscles. This important pad of fat overlies the phrenic nerve and the anterior scalene muscle. In this pad of fat lie several important bloodvessels, namely, the transverse cervical and the suprascapular arteries and their accompanying veins. Bluntly dissecting through this pad of fat will expose the anterior scalene with the phrenic lying on top or along the medial border. We have found the nerve along the medial border of the muscle almost as often as on its anterior surface. In some atypical cases we have found it lateral to the muscle; under the muscle; and even embedded deep in the fibers of the muscle. Generally, however, it is found lying within the sheath of the muscle and on its anterior surface. The nerve is then picked up with a hook and carefully identified before proceeding further.

There are several means of identifying the phrenic after it is located. One is by pinching the nerve with forceps or stimulating it with a weak electric current. This causes a sudden twitch or catch at the base of the thorax on that side. The above identifying procedures are so often indefinite and uncertain that they are hardly worth bothering about. In our experience the best way of telling that the nerve is really the phrenic nerve is by its course and relations.

The nerve on the hook is then injected with a few drops of 1 per cent novocaine solution and treated according to the results desired. That is if permanent paralysis of the diaphragm is desired the nerve is stripped of its sheath, clamped as high as possible and then divided above the clamp. Then gentle firm traction is made on the nerve and it is slowly wound around the hemostat until the tense nerve breaks with a distinct snap. When taut a distinct tug synchronous with respiration may be felt and seen. The nerve may be densely adherent in the mediastinum, making complete avulsion impossible. Here the nerve breaks off short during traction or it is necessary to sever it as low as possible for fear extreme traction will injure and tear some of the mediastinal structures and bloodvessels. Any accessory branches should be cut if seen. This avulsion causes a permanent paralysis

of that half of the diaphragm and is usually termed phrenicectomy. Other synonyms are phrenic avulsion or evulsion and phrenic exeresis or exaeresis.

The other procedure is termed phrenicotomy and consists in crushing with forceps about one inch or more of the phrenic nerve in its sheath. This is simply maceration of the nerve and its sheath. This causes only a temporary paralysis of the corresponding half of the diaphragm of indefinite duration. The diaphragm may stay paralyzed for 12 months and longer or it may regain its function in just a few weeks. Our experience has been that the diaphragm usually regains its function in about 6 to 8 months on the average. The wound is then closed with a few deep apposition sutures in the fat and muscles of double (00) ought plain catgut and the skin sutured with 2 or 3 sutures of fine dermal.

The main dangers are (1) hemorrhage—especially mediastinal and concealed hemorrhage; (2) confusing the phrenic with the vagus or other nerves. These dangers are apparent for just about half an inch medial to the phrenic nerve and anterior scalene lies the carotid sheath with its internal jugular vein, carotid artery and vagus nerve; while lateral to and under the anterior scalene muscle lies the brachial plexus. On the left side the thoracic (lymphatic) duct is another structure to avoid.

Phrenic avulsion, of course, carries a greater risk because of the possibility of accessory branches winding around the subclavian or mediastinal vessels; for when the nerve is pulled out tears may result in these vessels and fatal mediastinal hemorrhage occur.

I wish to enumerate briefly some of the most important indications for paralysis of the diaphragm through phrenic nerve interruption:

(1) Probably every case in which artificial pneumothorax is advisable but impossible or unsatisfactory because of adhesions should have the nerve operation.

(2) As an adjuvant in artificial pneumothorax where cavities remain uncollapsed in the presence of an otherwise satisfactory pneumothorax the relief of tension may bring about closure of the cavities.

(3) As a safety procedure where one is considering discounting an artificial pneumothorax and permitting the lung to re-expand—especially if there has been pre-existing cavitation.

(4) In an obliterative pneumothorax where the air space is being lost due to adhesions or fluid.

(5) In artificial pneumothorax complicated by a flexible mediastinum a phrenicectomy will tend to increase collapse without resorting to high pressures thus minimizing the tendency to displacement of the mediastinum.

(6) To control pulmonary hemorrhage where pneumothorax was attempted and failed or where it was contra-indicated.

(7) To obliterate "dead" pleural space as in long draining empyemas or in a fibrosed imperfectly expanded formerly pneumo-ed lung.

(8) Before partial or complete thoracoplasty a preliminary phrenicectomy has often produced such excellent results that the contemplated thoracoplasty was not necessary.

(9) Where marked displacement of the mediastinum and heart are present due to cicatrization of lung lesions a phrenicectomy will often restore these vital structures to their normal position and relieve scar tissue pull.

(10) Some patients will object to pneumothorax but consent to a phrenicectomy. Others may live where they are unable to receive pneumothorax refills.

(11) In some minimal or moderately advanced lesions without cavities where it may be thought that pneumothorax is a little too radical for such a lesion a phrenicotomy will help considerably in promoting rest and healing.

(12) In bronchiectasis where the lesion is unilateral, or if bilateral particularly severe on one side, diaphragmatic paralysis has given such excellent results in our cases that it is now one of our routine methods of treatment.

(13) In the few cases of lung abscess that we have had our treatment with phrenicotomy has given us remarkable results. So much so that I feel that every case of lung abscess should first be given a phrenicotomy in preference to the radical rib resection and

open lung drainage with its attendant high mortality.

(14) We have also used phrenicectomy in many far advanced hopeless cases of tuberculosis for the palliation and relief of distressing symptoms, particularly cough and expectoration.

(15) There are many cases in which the opposite side has too much trouble to do a pneumothorax. In such cases a phrenicotomy on the worst side may be indicated for usually diaphragmatic paralysis causes very little, if any compensatory work for the other side.

As to contra-indications I know of no important ones. Some authorities have recently warned about the remote future effects of permanent diaphragmatic paralysis. They have observed that the paralyzed diaphragm, with its loss of tone and nerve supply, will become paper thin and there is danger then of herniation of the abdominal viscera into the thorax. Also, that when done on the left side there is the added danger of acute dilatation of the stomach. Personally I have never seen this occur in the several hundred cases that we have done.

In conclusion, diaphragmatic paralysis through phrenic nerve interruption is an exceedingly valuable aid to the physician in the treatment of many common lung diseases.

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IS HUMAN IMMUNITY DECLINING*

LEIGHTON A. SMITH, M.D.

Quitman

Immunity may be described as a state, natural or acquired, by which the body is resistant to disease.

Natural immunity is inherited and varies according to racial peculiarity or other characteristics. Acquired immunity is the consequence of an attack of a pathogenic organism or toxins. This type of immunity occurs also from the administration of vaccines. Injection of a serum from an animal which has acquired an active immunity supplies a passive immunity. Mixed immunity is a combination of active and passive immunity. Local immunity is either natural or acquired or both and is exemplified in the resistance of the muscles and stomach to tuberculosis. Immunization is accomplished either through vaccination, inoculation or having the disease. It is with certain aspects of immunity, natural and acquired, with which this effort is intended to deal in a broad way.

The specific immunities such as smallpox, typhoid fever, diphtheria, scarlet fever and whooping cough, which are now definitely preventable diseases, are not for consideration here.

If we accept the fact that the natural immunity embodied in any human organism is but a combination of the natural and acquired immunity of its progenitors, plus any immunity age and circumstance might have allowed the individual to receive, it would seem reasonable to assume that for an individual to have a high content of natural immunity bestowed, that the progenitors of that individual must have had a great variety of insults from pathogenic organisms. It must follow, too, that the organisms be of varying virulency and with a duration in its host sufficiently long to insure a definite response from the agencies involved in manufacturing immunity. With the reliance and prompt action by intelligent people in early seeking surgical or medical aid, it is hardly likely that these fundamental requirements

are being met. This is not a criticism of the action of such a large body of people in seeking aid, but a compliment to their intelligence and education. The intelligent people know well that delay in having attention, even in apparently trivial and innocent matters, can lead to prolonged suffering and perhaps death. The attitude of the people in this matter reflects much credit upon the medical profession that is engaged in both preventive and curative fields.

To have an abundance of acquired immunity, it is necessary that the individual have a variety of diseases, or receive by inoculation or vaccination, the immunizing product of disease. This requirement is lessened to a great extent today by preventive measures of known value. While immunity of the human being and his ability to respond will not permit of delay in dealing with the various diseases and infections, an adequate amount of both natural and acquired immunity would permit of delay, insure a moderate or mild course, and at the same time confer more immunity.

Epidemics invariably begin as a mild disease due to a low virulency of the causative organism. Through rapid transmission from one person to another, the virulency of the organism is increased, while the immunity production is not increased commensurately. The result is a severe epidemic. Later, due to lack of suitable subjects or through restraint from preventive measures, the transmission becomes slower. Slower transmission gradually reduces the virulency of the causative organism and the epidemic definitely wanes. It finally ceases, however, not through immunity production alone, but through preventive measures or lack of favorable subjects or both. It is difficult to realize that a simple abscess at the root of a tooth is often instrumental in causing a number of serious affections and perhaps death. Proper response from the immunity producing agencies should preclude this. In chronic oral infections, leukopenia is more common than leukocytosis.

It seems that the human race, in the various strata of life, demands in every respect just what it is accustomed to. We know that the incidence of infections and disease is high in the lower strata of life. It is commonplace to

*Read before the Eighth District Medical Society, Brunswick, April 9, 1935.

see individuals, provided they are well fed, survive the severest infections and diseases with little or no medical or surgical attention. I am not prepared to say that the better class of people would end as well under the same circumstances. The vital organs of the trained athlete are ready and willing to respond to violent and prolonged insult. This response is in direct ratio to the preparation involved in the form of previous training. It seems plausible that agencies involved in manufacturing human immunity would respond better after having had previous and prolonged insults. This view is fortified by the knowledge of the patient who has never been ill and is unable to survive the first prolonged infectious process, while his neighbor, who has had everything, lives. The inadequate response of the human protective agencies in severe disease or infection indicates definite inability to properly meet insult.

Old age immunity to pathogenic organisms probably stands in a category to itself. Very few old people die primarily from disease producing organisms. It is probable that a human being of any age was never intended to die from any disease producing organisms. With adequate response from the structures governing antibody production, death could not possibly result from that source. The toxemias would not exist if the propagation of the pathogenic organisms were properly controlled by phagocytes and antibody production.

Agents in use today would seem to indicate a crystallizing opinion in regard to the need of more general immunity. It is easy to understand the evils involved from this point of view in acquiring today, immunity adequate in amount to protect life from the various types of pathogenic organisms. To accept any hypothesis it is logical that reasons of value should be offered to substantiate the theory which, of necessity, must include in this case much clinical and laboratory data. This is not definitely available. In this connection the claim is made that a certain class of people early demand medical and surgical attention. The early attention rendered these people reacts well but in the end deprives them of immunity they otherwise would have if a delayed course were permissible. It is advanced further that this

early attention is wise, since it would appear from observation and experience that an increasing number of these people respond poorly to a number of diseased conditions, the cause of which we find to be pathogenic organisms.

The inadequate blood state known as leukopenia is now common and associated with various conditions. This inadequate defense of the blood appears to show that the protective structures are not able to hold their ground in the case of combat, and it too often happens that these structures completely succumb. The fact that the mortality in several frequent conditions has not been materially bettered in the last thirty years would indicate that the resistance of the patient has failed to maintain its level. If the immunity level had been maintained, the treatment of the condition would now give us a much more favorable mortality. This point is exemplified in the case of pneumonia. Non-specific therapy and other agents used toward increasing the resistance and the leukocyte content of the blood is evidence that the medical profession is aware that it can rely to only a limited extent upon the normal defense structures. With increasing demands our course must continue in the modern way and prevent the disease if possible. If this cannot be done, take the necessary steps as early as possible to modify or shorten the course of the disease. This procedure involves both preventive and curative medicine as it is accepted and practiced today.

To admit the theory of a declining human immunity is to further challenge preventive medicine. It may be well to remember the progress of preventive medicine from the day of Jenner to the present time.

The Food and Drug Administration of the United States Department of Agriculture, Washington, D. C., announces the seizure of 37 shipments of macaroni, spaghetti, noodles and similar products during May. Coloring constitutes adulteration regardless of the source or nature. The analysis of the products seized showed the presence of soy-bean flour, of tumeric, a vegetable dye, or of a yellow coal-tar food color. It is stated that no form of labeling can correct the addition of coloring materials to alimentary pastes to conceal inferiority. Two lots of prepared artificial colors and flavors intended for use in salad oil mixtures were seized during the month on account of misleading label references to olive oil.

SYPHILITIC AORTIC INSUFFICIENCY*

Cases of Unusual Duration

L. MINOR BLACKFORD, M.D.

Atlanta

We have thought in Georgia that a negro rarely survived the diagnosis of syphilitic aortic insufficiency by more than eighteen months, and it has been generally held in America that regurgitation was almost invariably fatal within three years. It was surprising then to learn that 40 per cent of Grant's 136 English veterans of the World War were living at the end of ten years: His series, however, has been criticized on the ground that those old soldiers who were destined for an early death from aortic syphilis died before they came under his observation.

The following cases have been selected from those studied personally at the Grady Hospital since 1928. In all the characteristic to-and-fro murmur was present and in six the Wassermann reaction was strongly positive. In the other there was a history of a phallic lesion followed by secondaries; during that period he had pains in his joints (the only patient in this group who gave a story suggesting the possibility of rheumatic fever), and later he received three intravenous treatments.

Report of Cases

Case 1.—Charlie, aged 43, visited the Grady on May 25, 1925, because of "asthma" and orthopnea. He was in a state of rather severe congestive heart failure. Blood pressure was 130/54. Without treatment of any kind he rallied and returned to manual labor until October, 1932, when he was referred to me on account of recurrent heart failure. Bismuth and digitalis did him little good and he died on January 6, 1934, nearly nine years after his first visit.

Case 2.—Daisy, aged 44, was admitted to a bed in the hospital on March 6, 1931, with marked congestive failure. She had been short of breath with retrosternal pain on exertion for fifteen months. Blood pressure at various times was 200/60 and 184/20. She cooperated poorly, presumably because she got along so well, and had received but 75 doses of bismuth sodium tartrate (Searle) by May, 1935, when it was necessary to send her into the hospital a second

time on account of congestive failure. She died on June 8.

Case 3.—Gertrude, aged 31, came to the dispensary on September 25, 1925, on account of headaches. She also gave a history of edema and precordial pain. Her blood pressure was 160/50. She received 3 injections of neoarsphenamine and 9 of mercury. She returned from time to time with the same symptoms until she came under my care May 15, 1934. X-ray revealed but moderate cardiac hypertrophy. After receiving 13 doses of bismuth she felt much better and discontinued her visits. She is thought to be still living.

Case 4.—Stella, aged 27, reported November 12, 1924, complaining of headache, general malaise and a sense of depression. During the next two years she received 22 injections of neoarsphenamine and 37 of mercury. She returned once or twice a year with her original complaints. She came under my observation May 4, 1934. She has now received 50 doses of bismuth. The headache has long since gone and she is almost cheerful. She has gained markedly in weight and strength. X-ray of her heart on September 5, 1935, showed only moderate hypertrophy.

Case 5.—Joe, aged 28, came to the Grady on April 21, 1931, with a history of dyspnea for nine months. His blood pressure was 150/50 at first, more recently 204/36. He has continued at heavy work with little inconvenience, but once a year he comes in for a course of bismuth because it makes him feel so much better.

Case 6.—Kenny, aged 26, was brought to the clinic on May 31, on account of retrosternal pain. His blood pressure was 110/36. After the second injection of bismuth arsphenamine sulphonate he volunteered that the pain was gone. After the fourth dose he dropped out of sight until September 10, 1935. He says that early in 1934 he received 10 intravenous injections from "a private doctor," and that he has been short of breath and has suffered pain in his upper abdomen since about that time.

Case 7.—After spending several months in the hospital, James, aged 16, was referred November 17, 1931, for antisyphilitic treatment. Apparently his syphilis was of prenatal origin. He had visited the clinic three years earlier on account of dyspnea. At that time pulsating carotids had been noted and a valvular lesion diagnosed, but unfortunately his blood pressure was not recorded. Under my observation his blood pressure has varied from 168/38 to 100/18. He has grown and developed most satisfactorily while receiving 120 injections of bismuth, and he has not experienced notable congestive failure since treatment was begun. He says that during the past nine months his duties have involved frequent lifting of half ton objects with three other men, and that he has experienced no shortness of breath or precordial pain.

(Continued on Page 345)

*From Emory University School of Medicine and Grady Hospital.

THE JOURNALOF THE
MEDICAL ASSOCIATION OF GEORGIA

Devoted to Welfare of the Medical Association of Georgia

478 Peachtree Street, N.E., Atlanta, Ga.

SEPTEMBER, 1935

MEDICAL SURVEY

The Medical Association of Georgia has always stood for principles for the good of the people and has taken part in many projects for the benefit of the citizens of the state. We point with pride to the State Department of Public Health, and soon we shall be pleased to show the improvements in our hospitals for the care of the insane, homes and schools for the feeble-minded, crippled and blind, not to mention modern penal institutions and many other places which have felt the hand of human kindness, a hand gloved with medical science.

At this writing the officers of the Association are busily engaged, in cooperation with the federal government and State Department of Public Health, in perfecting plans to conduct a medical survey in many areas of the state. The funds and personnel for the survey are to be furnished by the federal agencies and the work will be supervised by the United States Public Health Service aided by the State Department of Public Health and Medical Association of Georgia.

Space will not permit a full discussion of plans. Suffice to say all problems of adequacy and inadequacy of medical care will be covered. Physicians of Georgia will be asked to furnish certain information which, when compiled, it is hoped will benefit their status. No one will be embarrassed and all are requested to cooperate for the good of the average family and home. "Be it ever so humble, there is no place like home." It is the average American home, including ours, for which we are working.

The Medical Association of Georgia will hold its eighty-seventh annual session at Savannah, April 21, 22, 23, 24, 1936.

The Southern Medical Association meets in St. Louis, Mo., November 19-22, 1935.

TUBERCULOSIS

Today, we are witnesses to the writing of a most significant chapter, epoch-making in its achievements, brilliant in its concept and revolutionary in its trend, in the great tome of tuberculosis. In what manner and by what means have these striking changes and developments come to pass? The morbidity and mortality rates have come tumbling down from their forbidding heights; the wrecked life of the erstwhile hopeless case has been restored to one of partial usefulness, and new vistas of hope and happiness opened for him; and the pain and fever wracked body of the advanced consumptive has been given an award of relief and peace. A large measure of assurance and security has been extended to the new infant of tuberculous parents; infected children whose future lives and welfare are in jeopardy if not actually doomed—the potential case today of the open advanced one tomorrow—are being detected, and their destinies recharted along the highways of health; unsuspected fountain-heads of infection are being discovered and dammed at their source; innumerable open cases are being converted by modern methods of treatment into closed ones, resulting in the tremendous advantages which are obvious. These are some of the pages that have been written in this chapter during the past two decades.

During this time there has been a drastic reduction in the incidence of this scourge and the mortality rate has fallen from nearly 250 per 100,000 at the beginning of this century to less than 80 per 100,000 at the present time. Twenty years ago tuberculosis outranked every other cause of death and today it is relegated to slightly less than third place. These most remarkable gains must not, however, blind us to the fact that tuberculosis is still a leading cause of death. We realize its frightful menace to young adult life and to the wage earners of the family group when we consider that tuberculosis is the most frequent cause of death in males from 25 to 44 years of age, and in females of 15 to 25.

Paramount in this changing picture of tuberculosis stands collapse or compression therapy. Its genesis was in the early part of the nineteenth century, but full fruition has

come to pass only in recent years. Today, it is estimated that in most sanatoria about three out of every four patients are being treated by this method. By means of collapse therapy the whole complexion of the tuberculosis problem has been altered, treatment and results have been revolutionized, early cases quickly restored to health, advanced cases given a new lease on life and frequently returned to useful vocations. Listed under this head are several procedures, varying from the conservative placing of weights upon the affected side, to the extensive resection of the thoracic cage or thoracoplasty. Space permits only the mentioning of the mileposts in this resplendent parade of scientific progress. We have chest weights, as sand or shot bags, pneumothorax, closed or open intrapleural pneumonolysis, oleothorax, temporary or permanent phrenic paralysis, scalenectomy or scaleniotomy, temporary or permanent multiple neurectomy, extrapleural or suprapariosteal pneumonolysis and partial or complete thoracoplasty. Major among these several procedures stands artificial pneumothorax or the injection of air into the pleural cavity. On the surgical side, phrenic paralysis seems to be on the ascendency. At the recent meeting of the National Tuberculosis Association, the writer noted that most workers preferred crushing the nerve, producing a temporary paralysis, to the operation extracting a segment of it, resulting in a permanent one. Each of the above methods has a clear cut indication and may be used alone or in combination with others, serving in a supplementary or complementary role. Their proper selection and application in a given case is often a most fascinating problem and one requiring both considerable knowledge and wide experience in this disease.

The wide spread use of the intracutaneous tuberculin test—the Mantoux test—has made tremendous strides in the field of case finding. Our research laboratories have recently produced a new tuberculin, a purified protein derivative known as P.P.D., which has improved the merits of this test and has given us a needed standardization.

Some of the other prominent factors in the control of tuberculosis are: extension and

improvement in medical and nursing care, a vast educational campaign among both the profession and laity, the rapid development of the sanatorium movement, growth of industrial hygiene, improved standard of living, falling birthrate and a check on immigration. Should the present trend continue, we may expect, in the near future, tuberculosis to become a minor cause of death.

CHAMP H. HOLMES, M.D.

The Cerebrospinal Fluid During and Between Attacks of Migraine Headaches. By T. J. C. van Storch and H. H. Merritt. *Am. Jour. Med. Science*, Vol. 190, No. 2, August 1935, Page 226.

The authors studied completely the spinal fluid in a series of patients with migraine headaches both during and between attacks. After thoroughly analyzing their results they came to the conclusion that there was "no significant abnormality of, nor consistent deviation from the normal cerebrospinal fluid pressure in 44 cases of migraine," and they thought that any noticeable change in the spinal fluid should cast doubt on the diagnosis of migraine.

Therapy in Carbolic Acid Poisoning. With Special Reference to the Use of Oil Antidotes. By L. Goodman and Arthur J. Geiger. *Am. Jour. Med. Science*, Vol. 190, No. 2, August 1935, Page 206.

The authors discuss the methods of poisoning in suicidal attempts and state that of the last 100 cases admitted to the New Haven Hospital phenol and lysol led the list. They then discuss the use of different antidotes and give reasons why the ones in most current use have not proved satisfactory. The absorption, fate and excretion of phenol as well as the rationale of therapy in carbolic acid poisoning is gone into at length. Knowing that phenol is well dissolved in fat they tried in vitro and in vivo experiments with petrolatum liquidum and found it of no value—they then worked with olive oil and found it very satisfying. Experiments were performed on a number of rats, also on guinea pigs, cats and dogs and their conclusions are that the use of olive oil used promptly as a lavage and some left deposited in the stomach gives promising results. If a purgative is used they suggest the use of castor oil.

The American Medical Association will hold its eighty-seventh annual session at Kansas City, Missouri, May 11, 12, 13, 14, 15, 1936.

The JOURNAL would like to record the scientific work of Georgia doctors. It earnestly requests, therefore, that each physician in the State who publishes a contribution in some other medical periodical submit an abstract of the article for these columns.

WOMAN'S AUXILIARY

OFFICERS

President—Mrs. Ernest R. Harris, Winder.
 President-Elect—Mrs. Wm. R. Dancy, Savannah.
 First Vice-President—Mrs. Hulett H. Askew, Atlanta.
 Second Vice-President—Mrs. Warren A. Coleman, Eastman.
 Third Vice-President—Mrs. T. J. Ferrell, Waycross.
 Recording Secretary—Mrs. W. R. Garner, Gainesville.
 Corresponding Secretary—Mrs. S. T. Ross, Winder.
 Treasurer—Mrs. W. M. Cason, Sandersville.

Historian—Mrs. Marvin F. Haygood, Atlanta.
 Parliamentarian—Mrs. Ralph H. Cheney, Augusta.
Committee Chairmen
 Health Films—Mrs. A. J. Mooney, Statesboro.
 Student Loan Fund—Mrs. Benjamin Bashinski, Macon.
 Public Relations—Mrs. J. A. Redfearn, Albany.
 Press and Publicity—Mrs. J. Harry Rogers, Atlanta.
 Jane Todd Crawford Memorial—Mrs. Eustace A. Allen, Atlanta.
 Research in Romance of Medicine—Mrs. D. N. Thompson, Elberton.

AUXILIARY AIMS

Though members of the Woman's Auxiliary to the Medical Association of Georgia have been more or less inactive in their work during the summer months they are now ready to settle down to a winter of enthusiastic endeavor along the lines laid out for them to follow.

Mrs. Ernest R. Harris, of Winder, President, has compiled the following helpful list of aims of the Auxiliary during 1935-36:

1. To secure an advisory committee or councilor for each county and district Auxiliary and to be guided in all state activities by the Advisory Committee of the Medical Association of Georgia. Without their permission no change is to be made in the educational program.

2. For county and district Auxiliaries that have not done so, to file copies of their Constitution and By-Laws with the State Auxiliary.

3. Each county Auxiliary to have, if feasible, chairmen corresponding to State, Southern, and National Auxiliaries:

Organization, Health Education, Public Relations, Hygeia, Press and Publicity, Historian, Legislation, Health Films, Research in Romance of Medicine, Jane Todd Crawford Memorial.

4. To contribute to the Health Film Library and provide this form of education for Auxiliaries and for the public. To contribute to the Student Loan Fund, now limited to the families of physicians of Georgia, and to send in the donation as early as possible so that the Chairman may know what amount is available for loans at the beginning of the school term.

5. To assist in the entertainment at county, district, state meetings and promote unity and friendliness through social contact. This is conceded to be one of our most important functions. It is our duty to encourage and preserve fellowship.

6. To present the health education program, outlined for us by the Medical Association of Georgia, to all lay organizations, the Medical Association of Georgia and local societies to appoint the speakers, the Auxiliary to supply approved educational material. The educational charge of the Auxiliary includes programs on child psychology and heart disease with certain brief three minute talks on other phases of health particularly applicable or important in Georgia. These three minute talks are available through local health education chairmen. These may be used as monthly topics or radio talks. To read them carefully until familiar with them; a convincing speaker is a well informed speaker.

7. To accept chairmanships of health and public welfare in other organizations or any office that will advance the work of the Auxiliary.

8. To read the news letters and Auxiliary pages of the JOURNAL OF THE MEDICAL ASSOCIATION OF GEORGIA. To contribute to them and send items of interest to District and State Scrapbook Chairmen.

9. To re-enlist former members and secure the membership of every eligible wife.

10. To co-operate promptly with Southern and National Auxiliary recommendations.

11. To set aside March 30th as Doctor's Day. On this day to have programs or suitable exercises honoring the men who have dedicated their services to the welfare of humanity and commemorating the deceased members of this profession.

12. To make Auxiliary success an individual project for this year. Become Auxiliary conscious. Our task is to become informed so that we can inform others. Ask organizations to have a program on child psychology or heart disease. Every effort will mean Auxiliary growth and will assist in making a satisfactory accounting to the Medical Association of Georgia at its next session in Savannah.

Board Meeting

These aims were worked out at a meeting of the state board, held early in August at the Academy of Medicine in Atlanta, at which time members of the advisory board for the Auxiliary met with them.

Dr. J. N. Brawner, Chairman of the Advisory Committee, presided over the important meeting. He and other representatives of the Medical Association of Georgia gave many helpful suggestions to the women at this time and pledged their continued cooperation.

Mrs. Ernest Harris, of Winder, state President, and Mrs. W. R. Dancy, of Savannah, state President-Elect, were among the interested members present. Former state presidents and chairmen of a number of important committees also attended the meeting.

These meetings of doctors and Auxiliary members are most helpful as they enable each group to better understand what the other group is striving for and enables them to better work together.

Fulton Auxiliary

The Woman's Auxiliary to the Fulton County Medical Society met at the Academy of Medicine, Atlanta, Friday morning, September 6, at which time the President, Mrs. Dan Y. Sage, submitted her resignation.

The resignation of Mrs. Sage was accepted with deep regrets as she had given promise of becoming one of the most successful Presidents ever to lead the Auxiliary. The executive board will meet at an early date and name her successor.

Dr. J. Edgar Paullin, President of the Medical Association of Georgia, gave a most interesting and comprehensive talk to the members, stressing the effect upon the medical profession and the laymen of the economic depression through which the country has been passing. He was given most enthusiastic attention and his address proved to be most helpful. He was introduced by Mrs. Charles E. Boynton, Program Chairman.

Mrs. Mason Lowance gave the Secretary's report in the absence of Mrs. W. W. Anderson and Mrs. Leland Baggett submitted her report as Treasurer.

Plans were made for a luncheon which the Auxiliary will sponsor at the Academy of Medicine on Monday, October 7. Mrs. Jesse York will be Chairman with Mrs. James N. Brawner, Jr., as Co-Chairman. Tickets will be 35 cents a plate.

The members voted to cooperate with the Fulton County Medical Society in its plan to secure a piano for the academy and Mrs. Ed H. Greene was appointed Chairman of this work.

At the conclusion of the business session, Mrs. J. R. Childs and her committee served lunch.

The next meeting of the Auxiliary will be on Friday, October 4, at 10:30 o'clock at the Academy of Medicine.

News Deadline

Press chairmen of the various Auxiliaries are urged to have their notes sent to the State Press Chairman not later than the first day of the month of publication. News received later will have to be carried over until the next issue.

SYPHILITIC AORTIC INSUFFICIENCY

(Continued from Page 341)

Comment

Although no one knows better than I that syphilitic aortic insufficiency carries a most grave prognosis, the seven cases reported herewith, representing about 5 per cent of the total series studied, prove that regurgitation is not always incompatible with several years of useful life. These cases with other data on hand lead to the following conclusions:

1. Syphilis of the aorta can be prevented by the thorough treatment of every case of syphilis in its early stages.

2. In spite of the two cases reported in which it was apparently beneficial, the use of neoarsphenamine in the usual dosage in the treatment of syphilis of the aorta is fraught with grave danger.

3. An occasional patient with syphilitic aortic insufficiency will live comfortably for a number of years without any treatment.

4. Careful regulation of the mode of living, treatment with bismuth, potassium iodide and digitalis will often serve to make the patient with syphilitic aortic insufficiency more comfortable, and probably to live longer.

The New York State Department of Health announces its rules and regulations for the control of Bang's disease which were instituted by the United States Department of Agriculture. Before any milk is permitted to be sold as "Grade A" raw milk the producer must submit a report of one or more acceptable blood tests and file an application with the department. This application gives the location of the herd, number of animals and an agreement to follow suggestions and recommendations from the department. Tests of all animals over six months of age are required at regular intervals. A herd becomes eligible after three negative blood tests have been made within a period of one year.

GEORGIA DEPARTMENT OF PUBLIC HEALTH

T. F. ABERCROMBIE, M.D., *Director*

QUALIFICATIONS OF THE HEALTH OFFICER

In the field of public health, as in all other branches of medicine, great advances have been made in recent years. The public health officer of today is not simply a quarantine officer, and the one to whom the people report insanitary conditions or nuisances—or even the doctor who administers vaccines and “shots” against certain infectious diseases. However important these functions may be, his services in other lines of endeavor are of far more importance.

To prevent an epidemic may not be so spectacular as stopping one after it has reached large proportions, but it is of more value to the community. Likewise, the prevention of mortality and morbidity, resulting from child bearing, and the saving of infants' lives through education of the public in the value of prenatal care and child welfare, lacks the glamour of checking an epidemic of smallpox, but the lives saved are just as important. It is also true that the many other activities of the modern health officer are of value to society.

Recognition of the future public health physician as a real specialist in his particular field is well illustrated by the qualifications set up for him at a recent conference of State and Provincial Health Officers, in conjunction with committees from the American Public Health Association, the U. S. Public Health Service, the Children's Bureau and others.

In addition to having a degree of doctor of medicine, and at least one year of practical experience, he will be required to take a special course at a recognized school of public health and possess the following special knowledge:

a. Such knowledge of biostatistics as will give the individual a sound conception of the mass phenomena of disease, familiarity with the methods of collecting, recording and studying statistics on vital phenomena and ability to interpret the results of the analysis of such material.

b. Some knowledge of general or theoretical epidemiology and training in the collection, recording, analysis and interpretation of epidemiological information regarding the commoner diseases, including occupational diseases and industrial hazards.

c. Familiarity with the general historical background of health administration, a gen-

eral knowledge of the forms and methods of operation of health departments of the national government, and of the states and local units, and acquaintance with the standard procedures of health administration.

d. Sufficient knowledge of public health bacteriology and immunology to permit the performance personally of the simple diagnostic procedures, the interpretation of laboratory reports and familiarity with the general methods of administration and operation of public health laboratories.

e. General knowledge of the usual methods of water purification and sewage disposal, sufficient to enable the individual intelligently to advise the local authorities in securing engineering advice and in undertaking new procedures.

f. Familiarity with the dangers from, and the general methods of securing protection against, diseases transmitted by foods.

g. Sufficient familiarity with the clinical aspects of the commoner communicable diseases to serve as a basis for developing skill in differential diagnosis and advising as to treatment; complete and accurate knowledge of the possibilities, limitations and practical methods of immunization against communicable diseases.

h. Sufficient knowledge of the epidemiology and clinical aspects of tuberculosis to enable the individual to plan and administer methods of prevention.

i. Sufficient knowledge of the epidemiologic, clinical and social aspects of venereal disease to enable the individual intelligently to plan and administer preventive procedures.

j. Familiarity with the principles of nutrition. He should possess a knowledge of basic food requirements. Not only those that are necessary to life, but those which represent optimum conditions for production of the greater vigor and stamina. He should have sufficient knowledge to recognize those actual clinical entities that may be produced by a faulty dietary.

k. Sufficient familiarity with the clinical aspects of the common occupational diseases to serve as a basis for developing skill in differential diagnosis and advising as to treatment, and accurate knowledge of the possibilities, limitations and practical methods of control of occupational diseases.

From the foregoing, it is evident that the public health physician is not only “the medical adviser of the community in matters

of public health," but is also a specially trained physician whom the physicians of his jurisdiction will be glad to consult on matters of public health and preventive medicine.

Qualifications for public health nurses and sanitarians have also been established by the same committees.

Several of our universities are now offering this special course in public health and under certain conditions, physicians wishing to qualify for this work may receive a stipend while taking the course. Physicians who are interested in specializing in public health work are invited to confer with the State Department of Public Health. Beginners in public health work are not to be more than thirty-five years of age.

GUY G. LUNSFORD, M.D.
Director, County Health Work

DIRECTORY OF AMERICAN MEDICAL
ASSOCIATION

AMERICAN MEDICAL ASSOCIATION
535 North Dearborn Street
CHICAGO
Directory Department

August 13, 1935

Dr. Edgar D. Shanks, Editor,
Journal of the Medical Association of Georgia,
419 Doctors Building,
Atlanta, Georgia.

Dear Dr. Shanks:

The work of revising and compiling the new Fourteenth Edition of the American Medical Directory has been started.

After every Directory is published we receive a number of complaints from physicians who have not been listed as Members or Fellows of the American Medical Association. Some of these men have possibly lost appointments with industrial firms, insurance companies, railroads, etc., because they were not indicated as members. They may have been members and let their membership lapse or new men in the community who failed to join their local society in time to indicate this information in the Directory.

To eliminate such criticism, we are asking Secretaries of State Medical Societies and Editors of State Medical Journals to cooperate in notifying all delinquents and eligible applicants that a new Directory is going to be published. It would aid greatly if a notice were placed in your publication calling to the attention of your readers, the importance of sending their data promptly when requested and the keeping up of their membership in your Society.

It will probably be two years or 1938 before another Directory will be issued.

Thanking you for your assistance in this matter, we are

Very truly yours,
AMERICAN MEDICAL ASSOCIATION
F. V. Cargill, Manager,
Directory Department.

NEWS ITEMS

Dr. Harry Moses, formerly of Macon, moved to Valdosta and is associated on the staff of the Frank Bird Hospital. He is a graduate of the University of Virginia Department of Medicine, class of 1908, and practiced surgery in Macon for more than twenty years.

Dr. H. P. Harrell, Augusta, has been elected a member of the Richmond County Board of Education.

Dr. W. R. Golsan, Macon, has just returned from New York City where he took post-graduate instructions at the Squier Urological Clinic of the Presbyterian Hospital and Columbia University College of Physicians and Surgeons under Dr. Georgia F. Cahill et al.

Dr. V. H. Bassett, Dr. E. N. Gleaton, Dr. Lee Howard, Dr. Wm. H. Myers, Dr. A. A. Morrison, Dr. H. J. Morrison, Dr. H. F. Sharpley, and Dr. L. W. Shaw, all of Savannah, attended a meeting of the Glynn County Milk Commission held at Darien on August 11th. After the meeting, the doctors were entertained on a fishing trip by Col. T. L. Huston.

Dr. C. S. Jernigan, Sparta, has been appointed by the War Department of the United States to assume charge of the medical service for the Civilian Conservation Corps in South Carolina.

Dr. Aurang Shah of Afghanistan, Asia, recently visited Louisville, Macon and Savannah to study the cities' modern health work.

The *Waycross Journal-Herald* (Waycross) published under "Preventive Medicine" in part as follows: "In one city in Georgia the results of the medical examination of the people on the local relief rolls are worthy of interest. Out of 1780 white persons examined only 56 were found to be free of physical defects. Out of 2491 negroes examined only 93 were found to be free of physical defects."

Dr. W. C. Sims, Richland, and his son, Dr. W. C. Sims, Jr., announce the opening of the Sims Clinic in the Beall Building at Richland on September 1st. The Clinic has modern equipment for the diagnosis and treatment of diseases and the care of surgical cases. Dr. W. C. Sims, Jr., is a graduate of Tulane University of Louisiana School of Medicine.

Dr. Q. A. Mulkey, Millen, and his son, Arnold Mulkey, have equipped and opened the Mulkey Hos-

pital in Millen. Dr. Arnold Mulkey is a graduate of the University of Georgia School of Medicine, Augusta, and served an internship at the James Walker Memorial Hospital, Wilmington, N. C.

Dr. Jas. N. Brawner, Jr., announces the opening of offices for the practice of gynecology and female urology, 410 Doctors Building, 478 Peachtree Street, N. E., Atlanta.

The second clinical conference of the Georgia section of the Southeastern Surgical Congress will be held on October 16, 1935, at the hospital of Dr. Stewart D. Brown, Royston. Similar conferences are being held in each state covered by the Congress under the direction of the state sections. The Florida section conference was held at the Turberville Hospital, Century, Florida, on August 17th. The South Carolina section was held at the hospital of Dr. J. R. Young, Anderson, South Carolina, September 3, 4, 5. The value of these clinics was emphasized in an editorial which appeared in the August number of the *Southern Surgeon*.

The Fulton County Medical Society met at the Academy of Medicine, Atlanta, August 15th. Dr. T. C. Davison and Dr. D. Henry Poer gave a case report, *Struma Lymphomatosa (Hashimoto's Struma)*; Dr. Geo. A. Williams made a clinical talk, *Use of Heat in Pelvic Inflammation with Demonstration of Apparatus*; Dr. B. T. Beasley read a paper, *Bladder Symptoms in the Female Due to Altered Mechanism of the Pelvic Structure*. The discussion was led by Dr. John F. Denton. Dr. Edgar G. Ballenger and Dr. Earl H. Floyd.

The Association of Military Surgeons of the United States will hold its forty-third annual convention at the Waldorf Astoria Hotel, New York City, October 3, 4, 5. The latest scientific phases of medicine, surgery, hygiene and hospital methods will be discussed. Exhibits by various governmental agencies will be on display.

Dr. W. K. Stewart, formerly of Macon, has moved to Alma and will continue the practice of medicine and surgery at the later location.

Dr. T. F. Abercrombie, Atlanta, Director of Public Health for Georgia, has been notified of his appointment on the Advisory Board of the Committee on Maternal and Child Health by Secretary of Labor, Francis Perkins. The Committee will help to formulate rules for the administration of the Social Security Act recently passed by the congress of the United States.

Dr. M. Bernard Copeloff announces the association of Dr. Morris B. Taranto for the practice of medicine and surgery, suite 816 Grant Building, Atlanta.

The Florida East Coast Medical Association will meet in St. Augustine, Florida, November 1st and 2nd. An invitation has been extended to all members of the Medical Association of Georgia.

The Inter-State Postgraduate Medical Association of North America will hold its next international assembly at Detroit, Michigan, October 14, 15, 16, 17, 18. Dr. Chas. H. Mayo, Rochester, Minnesota, President of the Association, will speak on October 17th.

The Randolph County Medical Society met at the Patterson Hospital, Cuthbert, September 5th. Dr. Leonard R. Massengale read a paper entitled *Sickle Cell Anemia*.

Dr. John E. Walker, Columbus, and Dr. Wiley D. Wood, Camp Hill, Alabama, reported the success of *The Treatment of Cirrhosis of the Liver with Insulin* in a man aged 48 in the July 20, 1935, issue of the *Journal of the American Medical Association*.

The Burke-Jenkins-Screven Counties Medical Society met at the Anthony Wayne Hotel, Waynesboro, on September 5th. The scientific program consisted of Medical Moving Pictures with discussions.

Dr. G. A. Thurman, Waynesboro, has been elected to membership in the Burke County Medical Society.

Dr. and Mrs. Louis Smith, Lakeland, entertained the members of the Lowndes County Medical Society at dinner in their home on August 13th. The scientific program consisted of a paper by Dr. Smith entitled *Pernicious Nausea and Vomiting*.

Dr. Geo. W. Heriot, Ja., Savannah, and Dr. Thomas J. Ferrell, Waycross, have been appointed First Lieutenants in the Medical Reserve Corps of the United States Army.

OBITUARY

Dr. William C. Griffin, Cartersville; member; University of Nashville Medical Department, Nashville, Tenn., 1878; aged 80; died at his home after an illness of several weeks duration on July 23, 1935. He was a native of Smithville. Dr. Griffin began the practice of medicine at Resacca and continued for fourteen years until he removed to Cartersville in 1892. He had been in active practice for 55 years. It was claimed that Dr. Griffin was the oldest member of the Seventh District Medical Society. He was one of the most influential and progressive citizens of Cartersville. Surviving him are his widow and one son Dr. Clark Griffin, Cartersville. Dr. Griffin was a member of the Bartow County Medical Society and the First Baptist church. Funeral services were conducted by Rev. Guy N. Atkinson from the First Baptist church. The members of the Bartow County

Medical Society formed an honorary escort. Burial was in Oak Hill cemetery.

Dr. John Lunsford Tracy, Sylvester; member; University of Georgia School of Medicine, Augusta, 1899; aged 61; died at his home after a long illness on July 19, 1935. He was born and reared in Webster county and began practice there and after moving to Sylvester, he practiced there for more than thirty years. When it was possible for him to visit patients, he never failed to respond to the call of sufferers. After it was no longer possible for him to make calls, he continued to write prescriptions. Through his generosity and kindness, he acquired an extensive practice and was held in high esteem by hundreds of acquaintances. Dr. Tracy was a member of the Worth County Medical Society and First Baptist church. Surviving him are his widow, one daughter, Miss Bernice Tracy, Teacher of Mathematics at Brunswick; two sons, Dr. John L. Tracy, Sylvester, and Wm. S. Tracy, Sylvester. Rev. E. L. Baskin conducted the funeral services from the First Baptist church. Numbers of the practicing physicians of Worth and adjoining counties formed an honorary escort. Burial was in Hillcrest cemetery.

Dr. Thomas Edgar Rogers, Waco; Emory University School of Medicine, Emory University, 1891; aged 75; died suddenly at his home on July 31, 1935. He was born and reared in Coweta county. Dr. Rogers practiced in Haralson and Carroll counties for more than forty years. He was charitable and never failed to respond to calls from the destitute as well as those able to pay for his services. More than fifteen hundred people attended the funeral services which indicates the love and esteem which the people of the rural community in which he lived had for their devoted friend and family physician. Dr. Rogers was a member of the Five Points Baptist church, near Jake. Surviving him are his widow, and ten children. Funeral services were conducted by Rev. C. L. Matthews from Mt. Zion church. Burial was in the churchyard.

Dr. William H. Reynolds, Lexington; Emory University School of Medicine, Emory University, 1883; aged 74; died at his home on July 31, 1935. He moved to Lexington when quite young. After he graduated in medicine, he practiced there for a half century and was one of the most popular residents of the village. Dr. Reynolds represented Oglethorpe county in the General Assembly of Georgia for two terms. He was a member of the Baptist church. Surviving him are his widow, three sons, Dr. Harold I. Reynolds, Athens; James and William H. Reynolds, both of Lexington. Funeral services were conducted from the Baptist church by Rev. B. C. McWhorter. Burial was in the family lot in Clark cemetery.

Dr. John Walter McMahan, Alma; member; Lincoln Memorial University Medical Department, Knoxville, Tenn., 1900; aged 60; died suddenly of heart disease at a private hospital in Waycross on July 30, 1935. He had practiced medicine for more than thirty years. By his charitable acts and many deeds of kindness, he had endeared himself to hundreds of acquaintances. Dr. McMahan was a successful practitioner, public spirited, interested in all civic and religious activities.

Dr. James H. Stroud, Cartersville; Emory University School of Medicine, Emory University, 1888; aged 69; died at his home after an illness of short duration on August 19, 1935. He was a native of Kennesaw and began the practice of medicine at Acworth, later moved to Chattanooga, Tenn., where he practiced for a number of years, thence to Cartersville where he practiced for more than a quarter of a century. Dr. Stroud was charitable and loved by hundreds of acquaintances. Surviving him are two grandchildren, Miss Frances New and James New. Rev. Clifton Freeman conducted the funeral service from the residence. Burial was in Acworth cemetery.

BOOK REVIEWS

Mouth Infections. By Oliver T. Osborne, M.A., M.D., F.A.C.P. Professor of Therapeutics, Emeritus, and formerly Clinical Professor of Medicine, Yale University, New Haven, 1934. Publisher: Oliver T. Osborne, M.D., 1155 Forest Road, New Haven, Conn. Price \$2.00.

The author stresses the importance of thorough examination of the mouth in all physical examinations, laying particular stress on the teeth. He then cites his own cases in which the patients were complaining of general symptoms, heart symptoms, abnormal blood pressure, disturbances of the blood, thyroid disturbances, arthritis, neuritis, myalgic pains or other rheumatic symptoms and then those who had various abnormal conditions such as nervous, skin, diabetic and eye cases. A great number of the above conditions he attributes, in part at least, to badly infected teeth and cites cures, with improvement in the state of their teeth.

The second part of the book is devoted to discussions regarding the tonsils and the different types of trouble an infected tonsil might cause. He then cites cases of his who had infected tonsils giving a brief history and physical findings.

The third part of the book is devoted to a discussion of Vincent's infection; the tongue; the adenoids; growths in the mouth; and the tooth brush.

The reviewer thinks the author has laid entirely too much stress on ability of infected teeth to cause disease of other organs.

WM. R. MINNICH, M.D.

The Range of Human Capacities. By David Wechsler, Ph.D. Published by Williams & Wilkins Co., Baltimore, Md. Contains 159 pp. Price \$2.50.

After reading this book one is reminded of one of the numerous stories told about Abraham Lincoln. Mr.

Lincoln was approached by an author requesting an endorsement of one of his publications. Mr. Lincoln took the book, turned to the fly leaf and wrote across its face, "This book is a very good book for such people as like this kind of a book." Dr. Wechsler has produced a very erudite treatise based on this theorem: "Thus, one of the main arguments of the eighteenth and nineteenth century philosophers for the establishment of democratic forms of government was based on the belief that all men were in fact, as Rousseau had proclaimed, created both free and equal, or, at least, with such insignificant differences of endowment as to warrant the universal franchise. This belief is at present very much in disrepute. Current social theory now favors government by experts, selected by an elite few; and this belief is seemingly based on the very opposite assumption that not only are all men not born equal, but on the contrary, with such varying degrees of endowment as to make the division of society into a ruling and a ruled class both natural and inevitable. Obviously, the answer as to which of these two views is correct can only be had from a knowledge of the actual differences in ability which separate the mass of mankind one from another, and not from any biased assumptions regarding them. The same holds for many other questions of social import, among them that of the uniform versus the sliding wage in industry; but before entering into any discussion of the practical implications of our subject, we must first consider its more general scientific aspects."

In order to do this he has utilized a highly scientific approach with more or less mathematical background. This is a book of far-reaching implication, both individual and social but one which will probably not be read with profit by the average reader.

W. W. YOUNG, M.D.

Surgical Pathology of the Peritoneum. By Arthur E. Hertzler, M.D., Surgeon to the Agnes Hertzler Memorial Halstead, Kansas. Professor of Surgery, University of Kansas. Cloth. Pp. 292, with 201 illustrations. Philadelphia, Montreal and London: J. B. Lippincott Company.

This book is interestingly written in Dr. Hertzler's unique style. It is beautifully illustrated with drawings by Tom Jones, and photographs of pathological tissue.

Dr. Hertzler's experimental work on peritonitis is very interesting. His ideas about drainage are sound and conform to the consensus of opinion concerning post-operative drainage. The book will be of interest to those doing general surgery.

CHAS. E. RUSHIN, M.D.

Collected Papers of St. Mark's Hospital, London, Eng. Compiled by the Medical Committee, April, 1935. Contains 440 pp. Publishers: H. K. Lewis & Company, Ltd., London, Eng.

This book is a memorial publication on the occasion of the centenary of the founding of St. Mark's Hospital for Fistula in London. The publishers have

cooperated well with the compilers and have produced a most attractive publication. The type form, paper, and illustrations are very pleasing and the older plates, particularly those showing the original plant of the hospital and the portrait of Dr. Frederick Salmon, the founder, as a young man are most interesting. The book is a compilation of a number of the papers selected from those published by various members of the staff during their periods of service. An effort was made to select the papers which offered original information at the time of their presentation and many diagnostic and operative procedures of common application at this time are found in their original form in this book.

The first clinical paper in the book is one on stricture of the rectum written by Frederick Salmon in 1831. In this paper he states that he has never seen syphilitic disease of the rectum. This early investigation bears out later evidence that the benign strictures of the rectum are rarely, if ever, syphilitic in origin. He reports another case of rectal stricture in a member of a polar exploration expedition and attributes his stricture to having been obliged to sit so much on the ice of the polar regions.

The second paper is a description of Salmon's technique for hemorrhoidectomy by Sir William Allingham and is taken from Allingham's textbook "Diseases of the Rectum" the fifth edition of which was published in 1888 by Churchill's of London.

A paper written in 1888 by F. Swinford Edward on "The Treatment of Piles by Injection." He quotes the "Quacks" of his day in their advertisements of "Piles Cured Without the Knife" much as we see their public expressions today. He reports the treatment of thirty-eight patients by the injection of a few minims of ten per cent carbolic acid into each pile. His results were quite satisfactory in his series but he cautions the reader that all cases of piles are not amenable to this treatment.

The book continues with other interesting papers of undoubted clinical value and extends into the present era with contributions by such eminent men in their field as Gabriel, Lockhart-Mummery, Furnival, Charles Gordon-Watson, Lloyd-Davies, and others. On the whole it is a very interesting book and altogether worthy of the hospital and its illustrious founder.

GEORGE F. EUBANKS, M.D.

Nutrition. By Margaret S. Chaney, Ph.D., and Margaret Ahlborn, M.S., Houghton Mifflin Company, Boston Mass. This richly illustrated book is planned as a text in nutrition, to be used in the college, university, or normal school by students in the field of home economics. It is brief, but concise, and at the same time scientific. In addition to the illustrations, numerous charts are furnished. The references, well compiled, are published at the end of each chapter. No one book can cover the entire field of nutrition at the present time—certainly not the enormous amount of experimental work that is being done. But

as a text of 436 pages. this book is excellently produced.

WM. WILLIS ANDERSON, M.D.

Evaluation of Symptoms. By Oliver T. Osborne, M.A., M.D., F.A.C.P., 1155 Forest Road, New Haven, Conn. Price \$3.50.

Dr. Osborne in his preface deplors the tendency of the modern practitioner to rely too much on such diagnostic aids as x-ray, clinical laboratory, etc., to the neglect of the study of the patient himself as revealed by history and symptoms.

Symptoms only are presented in this book. This is done by grouping of the various diseases having common findings, such as the eruptive diseases, and by alphabetical arrangement. There are also short chapters on the endocrine glands, vitamins and dieting.

While the presentation of the subject matter is briefly done none of the essentials are omitted. The type is clear and easily read. The index is adequate. This little volume is informative and interesting. It will serve a useful purpose in that it is a handy and accurate abridgement of the more voluminous works on diagnosis.

C. M. WEST, M.D.

Living Along With Heart Disease. By Louis Levin, M.D., Macmillan Company, 60 Fifth Ave., New York City, 126 pp. Price \$1.50.

The questions which constantly harass the cardiac patient are answered in a clear-cut manner, reflecting the author's remarkably broad experience in handling "heart" cases. The essential aim is to give the cardiac patient an understanding and an intelligent optimism about his condition, and as such, it should be in the hands of every cardiac patient.

For the physician, it is valuable in presenting to him the layman's point of view, and guiding him in the moral aid of the patient, notably as discussed in the chapter *Philosophy of Heart Disease*.

Rest, exercise, diet, occupation, marriage and pregnancy, and climate, are definitely outlined by the simple and effective device of a series of questions and answers.

The book is well written, in a simple, non-technical style, made interesting by many pertinent illustrations as well as by the concrete truths presented.

HAL M. DAVISON, M.D.

Aids to Ophthalmology. By N. Bishop Harman, M.A., M.B.Cantab., F.R.C.S.Eng., Hon. LL.D.Man. Consulting Ophthalmic Surgeon, West London Hospital; Lecturer in Ophthalmology, West London Post-Graduate College; Ophthalmic Surgeon to the Belgrave Hospital for Children, Late Ophthalmologist, London County Council Education Department; Examiner in Anatomy, Cambridge University; Lecturer in Anatomy, King's and Caius Colleges, Cambridge. With 234 pp., and 203 illustrations. Eighth Edition.

William Wood & Company, Baltimore. Cloth, \$1.25.

This pocket-sized book will prove to be a valuable and time-saving addition to any medical man's library or handy reference shelf, whether he be a general practitioner or ophthalmologist. As the author aims, the book has been made as concise and direct as possible, and this edition is corrected and revised so as to bring it into line with new methods of investigation and treatment. Rare diseases are intentionally omitted, and points essential to the knowledge of the more common ophthalmic diseases and injuries and their relation to general medicine have been emphasized.

The conciseness of the book makes it especially well suited as a reference for the busy general practitioner, and this is further enhanced by a very complete index. The sections on Refraction, and Operations are likewise concise and clear, and makes the book more appealing to the student of ophthalmology and to the ophthalmologist.

ALTON V. HALLUM, M.D.

Mother Marianne of Molokai. By L. V. Jacks. The Macmillan Company, 60 Fifth Ave., New York City. Price \$2.00.

Work in a leper colony would appeal to very few people even though the colony was equipped with up-to-date hospital and an adequate number of doctors, nurses and assistants. Mr. Jacks in his book *Mother Marianne of Molokai* gives a graphic outline of the work this woman accomplished with the assistance of six Sisters of St. Francis of Syracuse, N. Y.

The author does not attempt to give us a study of leprosy; this would fill volumes. But he does tell of the struggle of these brave women not only with dirt, disease and typhoons but also with drug addicts, thieves and murderers who were also found in the leper colony. Starting their work on the island in 1884, in the days when few doctors were willing to expose themselves to the disease and when medical minds were struggling desperately to find a cure for this terrible scourge; these women working in wooden shacks housing two hundred patients, without lighting except a few oil lamps, no drainage facilities and lacking all drugs and implements needed in medical work, were able to accomplish the almost impossible. So well was the work done that Robert Louis Stevenson on his visit to the colony four years later wrote that he found here "cheerfulness, cleanliness and comfort." So interesting did he find the colony that he visited it every day while on the island, teaching the children games and discussing the work with Mother Marianne. It is interesting to note that the only reward for her work that Mother Marianne asked was that none of the Sisters contract the disease; her prayer has been answered, for thus far no Sister has suffered the disease.

Mr. Jacks book is well written and not dry as some might have anticipated. The life and work of Mother Marianne is not only an inspiration but the account of it is an interesting historical record.

COSBY SWANSON, M.D.

Osler's Principles and Practice of Medicine, 12th Edition. By Thomas McCrae, M.D. Cloth. Price \$8.50. Pp. 1196. D. Appleton-Century Co., New York and London, 1935.

This is the latest and probably the last edition of Osler's "Principles and Practice of Medicine" since Dr. McCrae died in June of this year.

This volume maintains the high standards of previous editions of the text with more than seventy additions and revisions to bring it up to date. The concise, clear style of previous editions is maintained.

The physical appearance of the book has been kept practically unchanged externally, but internally there is improvement in the adoption of new type which permits more words to the page and which is regarded as more easily read.

JOSEPH C. MASSEE, M.D.

The American Illustrated Medical Dictionary. A complete dictionary of the terms used in medicine, surgery, dentistry, pharmacy, chemistry, nursing, veterinary science, biology, medical biography, etc., with the pronunciation, derivation, and definition. By W. A. Newman Dorland, A.M., M.D., F.A.C.S., Lieut.-Colonel, M.R.C., U. S. Army, Member of the Committee on Nomenclature and Classification of Diseases of the American Medical Association; Editor of the "American Pocket Medical Dictionary." Seventeenth edition, revised and enlarged with 945 illustrations, including 283 portraits. Contains 1573 pp. With the collaboration of E. C. L. Miller, M.D., Medical College of Virginia. Publishers: W. B. Saunders Company, West Washington Square, Philadelphia, Penn.

Insulin Resistance in Diabetes. By Edgar Wayburn. Am. Jour. Med. Science, Vol. 190, No. 2, August 1935, Page 157.

The author reviews carefully the literature on the subject, quoting the different cases cited and giving the amount of insulin used in the specific cases. He notes the fact that in hemochromatosis the liver damage present naturally causes an imbalance in the glucose tolerance which is most likely not due to impairment of the pancreas. A few authors have suggested the possibility of an insulin antagonistic substance being present. Presents a case of marked pulmonary tuberculosis who developed complete insulin resistance.

THE SCHOOL-CHILD'S BREAKFAST

Many a child is scolded for dullness when he should be treated for undernourishment. In hundreds of homes a "continental" breakfast of a roll and coffee is the rule. If, day after day, a child breaks the night's fast of twelve hours on this scant fare, small wonder that he is listless, nervous, or stupid at school. A happy solution to the problem is Pabulum, Mead's Cereal pre-cooked and dried. Six times richer than fluid milk in calcium, ten times higher than spinach in iron, and abundant in vitamins B and G, Pabulum furnishes protective factors especially needed by the school-child. The ease with which Pabulum can be prepared enlists the mother's co-operation in serving

a nutritious breakfast. This palatable cereal requires no further cooking and can be prepared simply by adding milk or water of any desired temperature. Its nutritional value is attested in studies by Crimm *et al* who found that tuberculous children receiving supplements of Pabulum showed greater weight-gain, greater increase in hemoglobin, and higher serum-calcium values than a control group fed farina. Mead Johnson & Company, Evansville, Indiana, will supply reprints on request of physicians.

RELIABLE APPARATUS

The Journal of the Medical Association of Georgia has received from the American Medical Association a small pamphlet containing a list of the apparatus accepted by the Council on Physical Therapy, the first one published under the direction and supervision of the Council. In addition to the list and description of accepted apparatus, the pamphlet contains indications for the use of each type and a statement relative to efficacies and dangers.

This pamphlet is a real contribution on the part of the American Medical Association in behalf of rational therapeutics—an effort to help place physical therapy on a sound, scientific basis for the benefit of the medical profession.

One of the purposes of the Council on Physical Therapy is to protect the medical profession, and thereby the public, against inefficient and possibly dangerous apparatus and against misleading and deceptive advertising in connection with the manufacture and sale of devices for physical therapy.

Apparatus Accepted includes all the devices accepted by the Council prior to May, 1935. Any physician can obtain this pamphlet free by writing to the Secretary, Council on Physical Therapy, A.M.A., 535 North Dearborn Street, Chicago, Ill.

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fact, any condition where a hypnotic or antispasmodic is indicated.

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In certain emergencies, such as strychnine poisoning, novocaine poisoning, eclampsia, and certain neuropsychiatric conditions, Sodium Amytal parenterally administered meets the need for immediate relief and permits effective dosage adjusted to the desired response necessary to control such situations.

CARBARSONE, LILLY

Medicinal agents containing arsenic should be of the highest degree of purity and of proved safety. The finished product conforms to these high standards only if the same standards have been applied to the crude materials and intermediates that enter into the manufacture of such an item as Carbarsone, Lilly (p-carbamino-phenyl arsenic acid), introduced in 1931 and extensively used with marked success in the arol treatment of amebiasis.

In the production of this arsenical, the arsenic content is quantitatively determined and the amount of arsenic found in the assay must be held within narrow limits of tolerance. Toxicity tests are also applied to each manufactured lot of Carbarsone, Lilly, in order to insure its safety and to provide a record of its physiologic performance. Extremely low limits are maintained on the moisture content of Carbarsone, Lilly, and also upon the amount of ash that remains when a sample is ignited to constant weight. In prescribing Carbarsone, Lilly, for the treatment of amebiasis, every physician should feel that in the development, the production, and standardization of this delicate product the manufacturer is accepting full responsibility for its potency and uniformity. A booklet on Carbarsone, Lilly, is available for the asking. Address the Lilly Research Laboratories, Box 618, Indianapolis, Indiana.

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THE SURGICAL TREATMENT OF THYROID DISEASES*†

*An Analysis of Two Hundred
Consecutive Cases*

D. HENRY POER, M.D.
Atlanta

It is my purpose to present the results of our experience in treating the ordinary types of thyroid diseases that are found in this section of the South. In our particular field these have been surgical experiences for the most part; on the other hand the medical management of these cases we consider to be of major importance, realizing that it frequently requires many months of pains-taking care to accomplish the desired result. Surgery in these cases is an incident in the correct treatment. Attention is called to the increasing number of patients seen with mild or moderate degrees of nervousness which is thought to be due to an increased activity of the thyroid; these cases are best cared for by the internist, or occasionally the psychiatrist, to whom they are referred.

The material used for this study is taken from the records of the Thyroid Clinic, Grady Hospital, and from the private case records of Dr. T. C. Davison and the author. These patients have been under treatment between January, 1930, and December, 1934, a period of five years; it is our purpose to continue this study over similar periods for the purpose of comparison and our results will be published as they are completed.

Our methods of treatment are perhaps quite

similar to those used in other sections of the country. Since 1923, when Plummer¹ reestablished the use of iodine as a preoperative medication strictly, our surgical procedures have become so well standardized that there has been a most acceptable drop in mortality and morbidity rates. Regardless of how carefully the surgeon may guard the use of this important drug he is still dependent upon the internist and general practitioner for cooperation that he has seldom gotten in the past. This is evidenced by the large number of patients with goiter, both toxic and non-toxic, who have had iodine prescribed over long periods of time before surgery is suggested. Fortunately no harm is usually done even though no lasting good is accomplished; on the other hand an occasional patient has his life seriously jeopardized by this indiscriminate use of iodine. Without question most operative mortalities are due to this, and it would seem far better to omit its use entirely because it can be put down as an accepted fact that *iodine will not cure goiter* even though it may be of some help during periods of increased physiologic needs such as adolescence and pregnancy; this fact was stressed at our meeting in Macon two years ago².

Diagnosis

The diagnosis of surgical conditions of the thyroid has been simplified by securing the answer to three questions: First, is there a definite goiter present?—second, are there toxic symptoms present?—third, are there pressure symptoms? There is an obvious enlargement of a part or all of the thyroid in practically all goiters; the exception to this are those cases of nodular goiter which extend beneath the sternum and around the trachea, and an occasional case of hyperthyroidism without obvious goiter (Fig. 1).

*Read before the Medical Association of Georgia, Atlanta, May 9, 1935.

†Much of this material has been accumulated in The Thyroid Clinic of Grady Hospital. This clinic is maintained and supported by the Junior League of Atlanta.



FIGURE 1
Severe Hyperthyroidism without goiter or exophthalmos.
BMR + 60 per cent.

Toxic symptoms, or those due to the increased activity of the diseased gland, occurred in the following frequency in our series: nervousness, tachycardia, tremor, increased sweating, increased appetite with loss of weight, exophthalmos, increased fatigue and exhaustion, insomnia with terrifying dreams, and a flushing of the skin particularly over the sternum. Symptoms due to pressure of the enlarged gland on surrounding structures in the neck appeared in this order of frequency: difficulty in breathing, choking, difficulty in swallowing, hoarseness, sensation of a lump, and pain. Secondary symptoms such as palpitation, sensation of nausea, irritability, changes in disposition, voice changes, and headache occurred in a small percentage of patients. It was interesting to note the large number of intelligent people who become severely "thyroid conscious" after being told by almost anyone that they have a "goiter"; much argument is frequently necessary to dissuade them.

The laboratory is proving of increasing

value by enabling us to establish an accurate diagnosis in practically every case. New procedures have been added during the past few years that are becoming routine in our everyday practice and which tell us very accurately the activity of the thyroid. This is particularly true of blood iodine determinations; this test has been simplified by several workers in this field (Curtis³, McCullagh⁴, and Perkins⁵) and its value approaches that of blood sugar determinations in diabetes and blood calcium in parathyroid disorders. However, it is true that microchemical methods are necessary because of the very small amount of iodine in the circulating blood (.0012 mg. per 100 cc. of blood). In hyperthyroidism this amount rises to .0028 mg. (average), and to .0026 mg. in so-called toxic nodular goiters (adenoma); in hypothyroidism it drops to .0007 mg. in cretinism, and to .0009 mg. in myxedema. In addition to blood iodine we have found blood cholesterol determinations of considerable value in some cases, particularly those patients with supposed hypothyroidism. Hurxthal⁶ has recently re-emphasized the importance of this test. (This work has been done for us by Dr. George Lewis and his associates in the Department of Chemistry of Emory University.)

The basal metabolic test is still employed but its value is questioned except for comparative purposes when performed by the same technician.

Classification

Diffuse non-toxic goiter, nodular non-toxic goiter, nodular toxic goiter, diffuse toxic goiter.

It has always been difficult in describing the various types of thyroid diseases to use terms that convey the same meaning wherever used. Unfortunately this will always be so on account of the many variations found in different localities, and also because of the difficulty in correlating the clinical and pathological picture. We agree with the ideas of Graham⁷ and others that the pathologic process is the same in all toxic thyroids, whether nodular (adenoma) or not. So far as the patient is concerned this is the only necessary point to determine; if nodules are present they are immediately evident on clinical and



FIGURE 2
Diffuse non-toxic goiter. Age 35. BMR + 15 per cent. Duration 10 years (puberty). Pressure symptoms: choking, difficulty in swallowing and breathing.



FIGURE 3
Diffuse non-toxic goiter. Puberty hypertrophy. Age 15. BMR + 9 per cent.

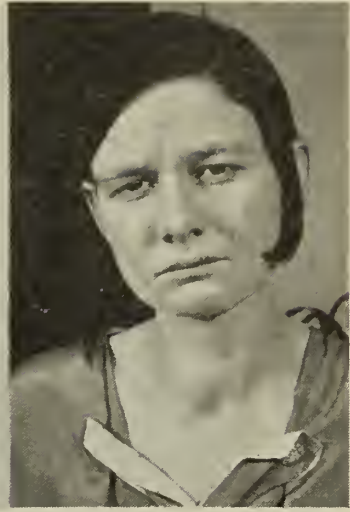


FIGURE 4
Nodular non-toxic goiter. Solitary nodule. Age 25. BMR + 14 per cent. Duration 6 years. Pressure symptoms.

pathologic examination. We use the classification given above which is the same as the one suggested by the American Association for the Study of Goiter⁸; it is satisfactory except for such rare conditions as malignancies, acute and chronic inflammatory processes, Riedel's and Hashimoto's struma, and chronic infections such as tuberculosis and syphilis.

Diffuse Non-Toxic Goiter

This group includes those patients with a smooth, diffuse enlargement of one or more lobes of the thyroid without evidence of toxicity. Clinically they are usually spoken of as simple goiter, colloid goiter (Fig. 2), and adolescent or puberty hypertrophy (Fig. 3). Symptoms are those due to pressure only (choking, dyspnea, dysphagia, etc.) except that practically all patients complain of some degree of nervousness. However, the basal metabolic rate, and amounts of iodine and cholesterol in the blood are all within the normal limits.

There were twenty-eight patients of this type in our series. The average age was 32.5 years and twenty-five of the patients were females. There was a family history of goiter in 10.5 per cent of the cases. The average duration of the goiter was seven years but symptoms had been present for only thirteen months. While four-fifths of the cases presented symptoms due to pressure, it is interesting to note that half of the patients also had some

symptoms usually caused by toxicity. The average basal rate and pulse rate were normal. Iodine had been used in only four cases.

The treatment of this group of patients is largely dependent upon the severity of the symptoms; these are usually fairly well established by the time they reach the surgeon. For the simple or colloid goiter a sub-total resection is done under local anesthesia without special preparation beyond the usual measures. Following this procedure we have had no deaths, no recurrences, twenty-four cases cured and four improved.

Adolescent goiter is best treated by using small amounts of iodine for short periods repeated several times during the year. We have ten cases of this type in the Thyroid Clinic under observation at the present time; there has been a recession of the size of the gland in eight of these but two of them still have a noticeable enlargement that may require surgery after they have reached full maturity.

Nodular Non-Toxic Goiter

Clinically this type of goiter presents much the same symptomatology as has just been described for the diffuse non-toxic goiter. However, on account of the nodular character of the enlargement it is usually noticed earlier by the patient or his friends; this is shown by the fact that symptoms were present for an average of only eight months (Fig. 4). All of these patients were females as were also those with nodular toxic goiter;

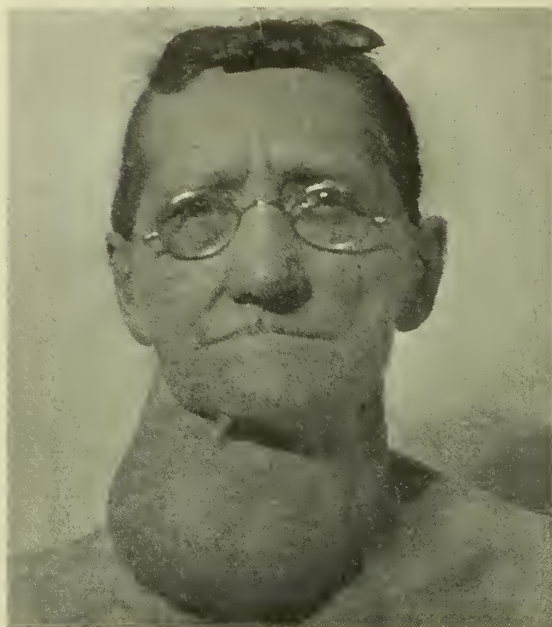


FIGURE 5
Nodular toxic goiter. Age 48. BMR + 42 per cent. Duration 20 years; toxic symptoms for 8 months.



FIGURE 6
Diffuse toxic goiter. Exophthalmic type. Negro female, age 32. BMR + 68 per cent. Duration 6 months. Pulse 120, loss 20 lbs. Blood iodine 34 gamma.

this is certainly a coincidence for nodular goiter does occur in men. In fact some of the most serious types of intra-thoracic goiter seen by me in the Great Lakes section were in men; it should be noted that this type of nodular extension is seldom seen in the South.

Pressure symptoms occurred in two-thirds of the cases, and some one or more toxic symptom exclusive of simple nervousness was found in 41 per cent. The basal and pulse rates were normal, and there was an average lymphocyte count of 35 per cent approximately.

Pathologically the process is characterized by involutionary changes that become circumscribed to one or more definite areas or so-called "adenomas." A very few of these retain their fetal character, while the vast majority become distended with colloid with consequent flattening of the basal membrane cells of the acinus. These areas may undergo cystic degenerative changes and occasionally hemorrhage will cause a sudden increase in the size of the nodule. (Fig. 10).

There are many reasons for advising the removal of any nodular or adenomatous goiter just as soon as it is discovered. First, the mere increase in size, which is almost sure to occur at some time, is certainly at-

tended by no small degree of danger in such a vital area as the neck; pressure on the nerves may cause permanent voice changes, pressure on the trachea may cause permanent damage within the chest, and pressure on the large venous channels returning blood to the heart certainly causes serious embarrassment to the circulatory system. Second, a mild and frequently unnoticed degree of toxicity may be present for years causing severe cardiac damage before the true cause is found. Third, the fact that these are all definite pre-cancerous lesions as proven by the large percentage of malignancies that occur in pre-existing adenomas.

In our series of forty-one cases operated upon there were no deaths, and two recurrences; thirty-five were cured and four considerably improved.

Nodular Toxic Goiter

Included in this group are those patients with nodular goiter with more definite clinical and laboratory evidence of toxicity, the so-called "toxic adenomas." (Fig. 5). As the symptoms and physio-pathology are much the same as those seen in patients with diffuse toxic goiter, they will be discussed more in detail below. However, several im-



FIGURE 7
Diffuse toxic goiter, Exophthalmic type.
Child age 12. BMR + 46 per cent. Duration 1 year. Pulse 140, loss 12 lbs.
Blood iodine 22 gamma.



FIGURE 8
Diffuse toxic goiter-recurrent. Two years after first operation. BMR + 56 per cent. Age 31, pulse 132.

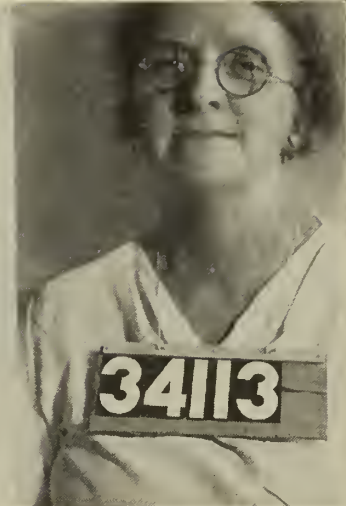


FIGURE 9
Diffuse toxic goiter with diabetes. Age 47. BMR + 37 per cent. Blood sugar 180 mg. Duration 4 years.

portant differences have been observed in this series—the symptoms are less severe and more insidious in onset, as evidenced by the long duration of the goiter (eight years plus), the basal metabolic rate is lower (average 27 per cent), and the rise in blood iodine is not as high (26 per cent). There was also a much higher incidence of goiter in the families of patients with both types of nodular enlargements—30 to 40 per cent.

The average age of the forty-four patients in this group was 32 years; pressure symptoms were present in 70 per cent and toxic symptoms in all. Two deaths occurred in this series of operations in elderly individuals with complicating conditions. There was one recurrence and thirty-eight cures.

Diffuse Toxic Goiter

Many names are used to describe this type of goiter—Graves' disease or syndrome, Basedow's disease, exophthalmic goiter, toxic hyperplasia, and hyperthyroidism are the more common ones encountered. This constituted our largest group as eighty-three patients of this type were treated. (Fig. 6).

As evidence of toxicity the most common symptom presented was nervousness; this usually manifests itself by increased activity, irritability, difficulty in concentration, and insomnia. Tachycardia or palpitation (as noted by the patient) occurred in approximately 75 per cent of the patients; the average pulse rate for the series was 102. There

was a definite tremor and increased sweating in about the same percentage of cases. Exophthalmos was seen in only one-third of these cases; positive eye-signs, including a stare, would increase this percentage to 40. However, the true cases of typical exophthalmic goiter constituted only 25 per cent of our group or only fifteen patients in five years; this would seem to indicate that this severe type of goiter is rather rare in the South. Increased appetite with loss of weight was found in 25 per cent of the patients; increased fatigue and exhaustion was seen in 20 per cent. Only one patient was seen in the maniacal stage and, unfortunately, operation was not agreed upon by the relatives. In one patient diabetes occurred as a complication; this was markedly improved following operation (Fig. 9).

The average age of these patients was 34.2 years and sixty-six were females (80 per cent); the average duration of symptoms due to goiter was 5.5 months, the shortest in the series. Some evidence of pressure was noted in 35 per cent of the patients; as most of these goiters were small these symptoms were usually rather insignificant compared to the toxic symptoms. The average basal metabolic rate was 43.5 per cent, and the average blood iodine 28 gamma per cent (Curtis³). Twenty-five per cent of these patients had been given iodine as part of medical treatment before even deciding upon surgery. Two pa-

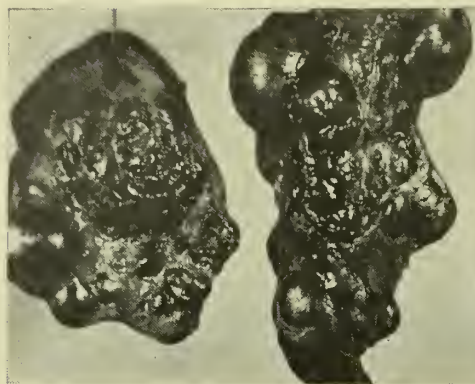


FIGURE 10
Nodular non-toxic goiter. Gross pathological specimen. Age 48, duration 15 years. Pressure symptoms.



FIGURE 11
Carcinoma of the thyroid. Age 44, duration 5 months. BMR + 20 per cent. Blood iodine 17 gamma.



FIGURE 12
Acute thyroiditis. Age 22, duration 1 week. BMR + 7 per cent. W.B.C. 13,000.

tients in this series were only twelve years of age (Fig. 7).

Treatment consisted in a subtotal resection in one or more stages, depending upon the severity of the condition, under local anesthesia. The patients were put to bed for a preliminary period of rest and forced feeding; then iodine was administered in the form of Lugol's solution using quite small doses—three to five minims three times daily. It has been found by Thompson⁹ and others that only a very small amount of iodine is necessary to bring about a maximum response which usually occurs within fifteen days (average 13.8 days²). Approximately 90 per cent of the gland is removed; in the past we feel sure that some of our recurrences were due to removal of insufficient amount of the gland. There was one death following operation which was due to a crisis; this occurred several years ago and followed almost continuous administration of iodine for over three months in a severe case. This complication occurred in our series very rarely—twice in two hundred operations.

There were four recurrences (5 per cent) and all of these patients returned for a second operation (Fig. 8); with removal of a larger portion of the gland this percentage is apparently being lowered but two cases of surgical myxedema and one of tetany have occurred. Seventy-one patients (85.5 per cent) were cured, and eight (10 per cent) were improved.

Malignancy

There were four carcinomas in this series (2 per cent). The average age was 46, and

the goiter had existed for an average of ten years (Fig. 11). In only one case was the diagnosis made before operation; this patient received x-ray treatment for eight months before she was referred for surgery. By that time extension had occurred and a tracheotomy was necessary. The preoperative diagnosis in the other three cases fell in the first three groups—diffuse non-toxic, nodular non-toxic, and nodular toxic. Pressure symptoms were present in three cases.

We have been able to trace three of these patients and all are well without evidence of recurrence. The other case is our most recent one (one year ago), and we believe her to be well even though she cannot be located. X-ray treatments were used postoperatively in two patients.

Other Conditions

Not included in this series of operative cases are three patients with acute thyroiditis (Fig. 12); in all of these the gland was swollen, tender, and painful. Local temperature was increased, and the average leukocyte count was 12,000. Treatment consisted of ice-bags, salicylates, and forced fluids; it is interesting that each of the patients had painted their painfully swollen necks with iodine. Recovery was rather slow (average twelve days), but suppuration did not occur.

One patient with chronic ligneous thyroiditis (Riedel's struma) was operated in 1932 by Dr. T. C. Davison, and we have recently had a case of struma lymphomatosa (Hashimoto). These two cases will be presented in a separate report¹⁰.

TABLE A—(Part 1)
ANALYSIS OF TWO HUNDRED CONSECUTIVE CASES

	Total Number	Average Age	Male Female	Family History of Goiter	Average Duration of Goiter	Average Duration of Symptoms	Iodine Used Previously
			3 M				
Diffuse Non-Toxic Goiter.....	28	32.5	25 F	10.5%	7 yrs.	13 mos.	4
Nodular Non-Toxic Goiter.....	41	38	41 F	31 %	7.5 yrs.	8 mos.	8
Nodular Toxic Goiter.....	44	32.2	44 F	39.4%	8.2 yrs.	9.6 mos.	5
			17 M				
Diffuse Toxic Goiter.....	83	34.2	66 F	15 %	3 yrs.	5.5 mos.	16
Malignancy	4	46	4 F	0 %	10 yrs.	12 mos.	1
			20 M				
TOTAL.....	200	36.6	180 F	24 %	7.1 yrs.	9.6 mos.	34 17%

TABLE A—(Part 2)

	Pressure Symptoms	Toxic Symptoms	Average BMR	Average Pulse	Per Cent Lympho- cytes	Mortality	Cured	Improved	Recur- rences
Diffuse Non-Toxic Goiter	79%	52.6%	— 1 %	82	31.4%	0	24	4	0
Nodular Non-Toxic Goiter	63%	41 %	— 5 %	79	34.3%	0	35	4	2
Nodular Toxic Goiter	70%	100 %	+27 %	87	32.4%	2	36	5	1
Diffuse Toxic Goiter..	35%	100 %	+43.5%	102	28.9%	1	70	8	4
Malignancy	75%	75 %	+15 %	-----	-----	0	0	4	0
TOTAL.....	64%	77.7%	+25 %	87	31.7%	3	165	25	7
						1.5%	82.5%	12.5%	3.5%

We have seen no cases of tuberculosis or syphilis of the thyroid gland.

Summary

1. The analysis of a series of 200 consecutive patients with operative thyroid diseases is presented.
2. The classification used in our thyroid clinic is given.
3. Methods of diagnosis, including new laboratory procedures, are discussed.
4. A plea for more rational use of iodine is made.

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Discussion on Paper by Dr. D. Henry Poer

DR. ROBERT L. RHODES (Augusta): I should like to emphasize iodine as a part of the surgical armamentarium, as he intimated, and not a part of the medical treatment. Plummer has said repeatedly that if he could withdraw the giving out of that information to the general medical public, he would confine it strictly and confidentially and solely to the surgeons.

Another point which he brought out again is worthy of repetition, and that is that the operation is just the turning point in the patient's career. He or she has just begun to get well. The factors that have led up to it, the focal infection, the high mode of existence, and all those things, must be removed, lest there be the danger of recurrence. At the Mayo Clinic they put the present high speed of existence as the second causative factor in recurrences.

I had the pleasure in December of hearing Mahan of Texas and Lahey of Boston discussing this more recent development in laboratory diagnosis, to which reference is made, and that is the iodine content of the blood. We all hope to see the day when iodine content will be considered as valuable as the blood sugar, for instance, in diabetes. As Dr. Poer brought out but did not stop to emphasize, the extremely small amounts require a most accurate chemical laboratory test to de-

termine, and these same men, and others, are now still working in an effort to simplify and to make as accurately as possible the iodine determination.

There is another factor that I was glad to see that he brought out, and that was the question of a lot of these hairsplitting differential diagnostic features from the laboratory standpoint, after the section has been removed. Of course we all go back to years ago when Wilson said he could take the section and describe the clinical symptoms that the patient had. That may have been true probably twenty years ago when he made that statement, but the pathologists will tell you today that the proper use of iodine in the preoperative treatment markedly influences the pathologic picture, as is demonstrated under the microscope, and in some of them you will find that the gland has almost returned to normal.

In the administration of iodine in these certain types of colloid goiters, especially in the adolescents, with little enlargement of the thyroid, they should be handled and watched very carefully. A goodly percentage of those will stir up a latent hyperthyroidism, or it is possible that over-iodine medication may precipitate the same thing. In Cleveland, where simple goiter is so prevalent and where they use iodine in the schools, up to as many as 200 in the school children a year show evidence of thyrotoxicosis, which comes from the use of iodine if it is not watched most carefully.

Dr. Poer mentioned the question of cancer. It is the adenoma that leads particularly to your cancerous degeneration. In the ones he showed there, the simple nodule that may lie dormant 5, 10, 15 or 20 years and then suddenly begin to develop an activity, the patient shows the various symptoms which he has enumerated, of thyrotoxicosis. We know those are the groups. Lahey claims 16 per cent of them will show malignant degeneration. If you have been fortunate enough to remove it, if it has not metastasized (and remember that these metastasize primarily through the blood stream), the patient is well.

DR. T. C. DAVISON (Atlanta): The study of thyroid disease is a broad subject. I believe the treatment of thyroid disorders, or if we might refer to them collectively under a blanket term of "goiter," may be said to be surgical and non-surgical rather than surgical and medical, because often the medical treatment is more in watching and managing the patient than in the actual giving of medicine.

If we classify goiters into the toxic and non-toxic types the toxic goiter should always be treated non-surgically preparatory to surgery. The non-surgical treatment means physiologic rest of the physical and mental faculties. These patients should avoid excitement, reading the daily papers, and "too much" neighbors. They should be given iodine, but not too much nor over too long a period of time. It is well to remember that iodine is a two-edged sword, it is capable of doing great good, and also capable of doing great harm. I have had many victims of goiter to say to me, "I was all right until they gave me iodine, but now

I am all shot to pieces." Their voices, hands and bodies tremble.

I think goiters, with the exception of the adolescent type are surgical. The adolescent goiter requires very little treatment, but does require watchful waiting. Perhaps, if we used only iodized table salt in the home, it would be sufficient treatment for this type of goiter. It is a compensatory affair until the ovarian function is fully established and then the goiter often disappears.

I think we may safely say that surgery is indicated in every patient, past the age of 26, who has a goiter whether it be toxic or non-toxic. The so-called non-toxic is sometimes referred to as simple goiter. I do not believe there is any such thing as a simple goiter. They are all potentially toxic or malignant.

I should like to give you four indications for surgery of the thyroid.

1. Thyrotoxicosis which should have the proper preparation with iodine for two weeks, and *no longer*.
2. The pressure goiter, which produces pressure on the laryngeal nerve, on the trachea, and at times interferes with breathing.
3. The unsightly goiter should be removed for cosmetic reasons.
4. If a goiter has existed for several years, particularly at the age of menopause, and suddenly takes on renewed growth; or if a goiter develops at this period of life, it should be removed to prevent malignancy.

Clinics have given various figures, as to the incidence of malignancy in adenomatous goiters, which range from 2 to 16 per cent. Most of the malignant goiters are not diagnosed as such until the goiter has been removed and examined in the laboratory.

I think the classification Dr. Poer has given us is simple and one that any medical student can use. It is the one recommended by the American Association for the Study of Goiter.

I want to call your attention to chronic hyperthyroidism occurring in the nodular goiter which has been present for a long time. This goiter is sometimes referred to as non-toxic because the basal metabolism is normal, but there is a constant spilling over of toxins, which ultimately undermine the patient's circulatory system. The heart becomes enlarged, there may be a leaking valve, the blood pressure is slightly elevated and there is a tremor of the hands. All nodular goiters should be removed before they become toxic or malignant.

DR. GEORGE L. ECHOLS (Hardwick): While these good friends of mine were discussing this subject of goiter, I was thinking particularly of the toxic goiter, the so-called Graves' disease, the individuals who become excited, restless, irritable, unmanageable: back in the old days many of them were committed to the state hospital. We are not now getting nearly so many. I am just wondering if you city slickers are curing them. The reason I mentioned the term "city slickers" was that I wanted to stress what Dr. Davison just added. I really believe you are curing a lot of these

where they are extremely excitable and become maniacal hyperthyroid cases, and they never get to the stage and have to be committed to the state hospital.

When I get back home I am going to look it up and see what a reduction you fellows have brought about, and add it to my discussion. I want to thank you very much, because I really think you have lowered one part of our admission in handling these cases early.

If you treat a patient for a thyroid condition and he gets well and goes on and has another attack, in which he becomes very restless, talkative, poorly nourished, and so forth, do not be worried about it. The chances are you have a coincidence of an individual who had hyperthyroidism and also maniac depressive insanity.

There is one fortunate thing in my past experience. These hyperthyroid cases usually are good eaters, and if you just encourage them to stay quiet and put them off in a rather secluded part of your institution, and talk to them about the necessity of conserving their strength, tell them they are poorly nourished and under-nourished and to just lie there in bed and fatten up, you will find they will soon be better.

DR. G. T. LEWIS (Emory University): There are a few more statements which I think might be made from the laboratory point of view. The basal metabolic rate has long been used as the best measure of thyroid activity. Recently the accuracy and specificity of this determination has been strongly questioned and there has been a vigorous search for some other laboratory procedure which will give a truer picture of thyroid function.

There are two things to be kept in mind in the search for such a test. It must give an accurate picture of how the thyroid is functioning and the technic must be sufficiently simple that it can be carried out in the average clinical laboratory.

Of the two new procedures which have been most prominently mentioned, determination of blood cholesterol and of blood iodine, one corresponds fairly well to one of the criteria we have just listed and the remaining one to the other. The determination of the cholesterol in the blood is relatively easily carried out but the blood iodine level gives a more accurate picture of the functional state of the thyroid. The few figures which we have obtained in our laboratory work thus far seem to bear out this statement.

When one considers that there is less than one milligram of iodine in the whole circulating blood stream of the average adult and that we attempt to determine the iodine content of a 10 cc. sample, one can easily understand the extreme care which must be maintained throughout all the laboratory manipulations. As the method is carried out at present, it requires considerable expensive apparatus and a great deal of experience in microchemical technic. Work is in progress in several laboratories on refinements of the method and it may be that there will be available shortly an easier procedure which will not require so much expensive apparatus and which can

be carried out by someone who has not had extensive training in microchemical manipulations. If such a method can be made available, it will probably be our most accurate index of thyroid function.

DR. HENRY POER (Atlanta): I want to thank the several doctors for their discussion. I did not have time to discuss our methods of caring for the group of patients suffering from what we call "functional nervousness." These patients belong more to the internists and the psychiatrists. As Dr. Echols said, some of them do develop mental symptoms, and we have had one case with acute mania.

I did not have the opportunity to emphasize several points that I wanted to discuss more at length, but fortunately Dr. Rhodes and Dr. Davison have brought them out. One is the possibility of adenomatous goiters becoming malignant; for this reason alone we believe that all such goiters should be removed if the patient has passed through the adolescent age. Another point was the subject that I presented in Macon two years ago. "The Use of Iodine in Hyperthyroidism." It does me a great deal of good to hear other men bearing down on the same point, because of the many dangers connected with the indiscriminate use of iodine.

ST. LOUIS MEDICAL SOCIETY INVITES SOUTHERN PHYSICIANS

The 29th Annual Meeting of the Southern Medical Association, the second largest medical organization in the United States, will be held in St. Louis, November 19-22.

The unusual clinical facilities of the two medical schools and the numerous hospitals, combined with the high standing of the medical profession, and the excellent hotel accommodations make St. Louis an ideal city for this medical gathering.

Addresses and papers will be presented by distinguished clinicians, not only from the South, but from all over the United States as well as from several foreign countries.

The St. Louis Medical Society extends a very cordial invitation to all physicians in good standing in their State and Provincial medical societies to attend this meeting.

Twenty-one nurses completed the first of the international courses offered in London under the Florence Nightingale International Foundation on June 4, 1935

Science has yet to discover, with exactitude, just what sleep is, and how it is produced. But everybody knows that it is "Nature's sweet restorer," and that the wise person gets plenty of it.—Medical Society of the State of New York.

In the news release of the Medical Society of the State of New York, it is stated that pneumonia is third among causes of death, and every year this disease takes a toll of 100,000 lives.

HYPOTHYROID HEART DISEASE*

Report of Case

JOHN W. BRITTINGHAM, M.D.

Augusta

Since the report of Zondek¹ in 1918, describing what he termed "myxedema heart" disease in four patients, there have been occasional references in medical literature to cardiac abnormalities caused by diminished function of the thyroid gland. Descriptions of these abnormalities have varied, not only as to their incidence, but also as to their clinical manifestations. Because of this, and because it is the opinion of the essayist that this type of heart disease is likely to become very much more prevalent in the future, a report and short discussion of this condition is probably in order. If so-called thyroid ablation should become as popular as its sponsors would like, this type of heart disease will almost cease to be the clinical curiosity which it has been considered in the past.

Ayman, Rosenblum and Falcon-Lesses², from the Boston Dispensary and the Thyroid Clinic of the Beth Israel Hospital, in 1932, summarized the more significant features of the twenty-two cases of "myxedema heart" disease which had been described previously in the literature. These observers reported two other cases of their own at this time. Ohler and Abramson³, in a more recent report in February, 1934, made detailed observations of thirty-five patients with myxedema, and found cardiac abnormalities in thirteen cases. These two reports will furnish enough references to anyone interested in reviewing this unusual condition. The case to be described is being presented to you in the hope that some of its features will facilitate recognition of this type of heart disease.

In the group reported by Ayman, Rosenblum and Falcon-Lesses, there were seventeen females and nine males. In the thirteen patients discussed by Ohler and Abramson there were eleven females to two males. In

reviewing the case histories of these patients I was impressed by the frequency of uterine abnormalities, such as repeated abortions, previous curettage, etc. In the case to be described a still-birth had occurred about eighteen months before onset of symptoms, and a placenta praevia immediately preceding these. According to Wahl⁴ sterility is frequent in myxedema, and repeated miscarriages are said to be not uncommon in its presence.

The chief symptoms that should lead one to suspect hypothyroid cardiac abnormality are the subjective complaints of weakness or a tired feeling. However, in many of these patients the absence of complaints referable to the circulation is an interesting feature. Many of these patients suggest neurasthenia very strongly, because they frequently give the story of failure to gain strength after some definite episode such as miscarriage or some apparently trivial illness. The absence of dyspnea on exertion or any respiratory distress is not difficult to understand when we keep in mind the fact, that a myxedematous individual is generally so retarded that they rarely expend the extra effort that would cause dyspnea. It is only the occasional patient who complains of palpitation, in spite of the fact that various arrhythmias have been described in this type of cardiac disturbance. Incomplete heart block was present in a case reported by Luten⁵. Willius⁶ reported two cases of bradycardia, one with a complete heart block, and both of which recovered under thyroid therapy. I have seen extremely marked sinus arrhythmia in one of my myxedematous patients. Normal rhythm was restored by thyroid extract.

Moderate anemia is a frequent accompaniment to this condition, and is often ascribed as the cause of the patient's symptoms. There is nothing characteristic about the blood pressure or pulse rate, although the case to be described was referred to me chiefly on account of a pressure of 80 systolic and 70 diastolic. Typical myxedematous signs such as thickened skin, obesity, dull mentality, etc., are frequently absent. Many of the patients described have been slender individuals. Examination of the heart usually reveals a

*Read before the Medical Association of Georgia, Atlanta, May 9, 1935.

definite increase of cardiac dulness, and the mitral first sound is frequently of poor muscular quality.

The diagnosis of this condition is relatively simple once it is suspected, because it can be verified by basal metabolic and electrocardiographic studies. It must be kept in mind that a comparatively small number of myxedema patients develop cardiac abnormalities, so the actual diagnosis depends more upon the cardiographic changes. Abnormal electrocardiograms may be seen with few exceptions when the basal metabolic rate drops to minus 25 or lower. The characteristic changes are those indicating diminution of strength of auricular and ventricular contractions, such as flat or inverted P and T waves, and low R waves. Flat or inverted T waves in all leads of the electrocardiogram, according to Paul D. White⁷, is almost pathognomonic of myxedema, and may be used along with the basal metabolic rate in following progress of thyroid therapy.

Thyroid gland extract is a specific in these cases, but it may be dangerous if not controlled. My patient had a mild but typical anginal attack after taking one dose of thyroxin of only 1-75 grain (0.0008 Gm.). One of the cases described by Ohler and Abramson had a fatal attack of angina while taking 15 grain (0.972 Gm.) of desiccated thyroid gland daily. The effect of treatment in this case was not checked by electrocardiographic or metabolic studies. It is advisable to keep the patient in bed for the first few weeks of thyroid administration, because it is during this time that the greatest changes occur in the myocardium and angina is most likely to occur.

I have seen this condition in three patients in the past five years. Two cases were mild, and returned to normal in a few months. The third case was more typical, and it is this patient that I am reporting.

Report of Case

A white woman, aged 32, was first seen by me March 15, 1933, with the chief complaint of weakness. She had felt well until 10 months before admission to my office, and stated that she had never regained her strength after having had a placenta praevia in June, 1932. At the time of this complication seven transfusions were required, she developed a left femoral

phlebitis, and her course was a stormy one in many ways. During the next ten months she noticed slight dyspnea on exertion, occasional palpitation, and felt tired most of the time. Her weight increased gradually from 140 to 170, and she attempted to control this by more or less rigid diet. She consulted several physicians, and on failure to improve, returned to Augusta to consult the obstetrician whom she had at the time of the placenta praevia. Menstruation had not reappeared since this time. When a blood pressure of 80/70 was discovered the patient was referred to me for further studies. At the age of 17, while in college, she had a so-called "nervous breakdown," and was said to have had some sort of thyroid disturbance, which was treated with x-rays. She stated that she had always been somewhat nervous. Menstruation had been normal until the placenta praevia. There were no pronounced sensations of cold, but she did state that perspiration was scanty.

Physical examination disclosed a well-developed, moderately obese young woman of medium height. Her speech was rather slow. The skin was pale and dry, grade II, and of a slight yellowish tinge. Mucous membranes were of good color. Hair was normal in distribution and amount, except in the axilla, where it was very scanty, and had not been shaved in over a year. There was slight puffiness of the lower eye lids. The tongue was pale with smooth edges. The thyroid gland was barely palpable. Lungs had normal resonance, and there were no rales. The heart was enlarged slightly to the left, dulness being 12 cm. in the 5th interspace to left of midline. All sounds were distant, and the mitral first sound lacked booming muscular quality. No murmurs were heard. Blood pressure was 80 systolic and 70 diastolic. Pulse rate was 90, and regular rhythm. The liver edge descended 3 cm. below the costal margin on deep inspiration, but was not tender. The spleen was not felt. All deep reflexes were increased.

Laboratory examinations were as follows: Blood: hemoglobin 90 (Sahli); R.B.C. 5,100,000; W.B.C. 8,350 with normal differential count. Wassermann and Kahn negative. Urinalysis normal. Electrocardiogram: P-R 0.18, QRS 0.04, rate 105, rhythm regular, QRS small and slurred in all leads, R waves low in leads I and II, and T waves inverted in all leads. Basal metabolism: (3/18/33) Minus 22.5. The diagnosis of myxedema with hypothyroid heart disease was made, and treatment with thyroxin was instituted. This treatment was controlled carefully with cardiograms and basal metabolic studies, and in two months the patient no longer complained of weakness or dyspnea, had lost 24 pounds, her speech was faster, and she felt better than she had for the previous two years. Improvement was indeed very striking in this short time, but the cardiograms did not return to normal until two months later. On a dosage of desiccated thyroid, grains 1 (0.065 Gm.) t.i.d. the cardiograms again disclosed the characteristic changes of myxedema. Since this time she has taken 5 grains (0.325 Gm.) of desiccated thyroid gland daily and

has been a normal individual in every way, with the exception that menstruation has not reappeared.

Summary

A patient with typical clinical, roentgenographic and electrocardiographic manifestations of "myxedema heart disease" became normal under thyroid therapy.

The characteristic manifestations of this condition have been described.

Attention has been called to the dangers of too rapid or uncontrolled thyroid administration.

It is the belief of the essayist that this type of cardiac abnormality is more common than is supposed, and that cardiograms on all hypothyroid individuals will add many more cases to those already reported.

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Discussion on Paper by Dr. John W. Brittingham

DR. HAL M. DAVISON (Atlanta): The essayist has given us a well rounded discussion of hypothyroid heart disease. No doubt, all of us have come in contact with more of this type of case in the past than we have actually diagnosed.

There are many cases of hypothyroidism bordering on myxedema, but not showing frank symptoms of myxedema. It is noticeable that there appears to be no definite group of symptoms and no definite clinical findings that are always present in these cases. The inability to "come back" after some form of shock or strain, plus continued weakness and tired feeling, have been the symptoms most often found.

The most frequent physical finding has been a heart enlarged in its transverse diameter, together with some findings typical of muscular weakness. The pulse may be low or high. Blood pressure may be low or high, though usually it has been low in those cases with cardiac dilatation due to a flabby heart muscle. As a rule, the myxedema heart is unstable. The heart muscle is poorly nourished, and does not react in a normal way to any type of strain. All types of cardiac irregularities have been present, varying from complete or incomplete heart block to auricular fibrillation. In the group of cases discussed by Ayman, Rosenblum, and Falcon-Lesses, 15 patients out of the 22 studied showed signs of cardiac failure, but in all the reported cases that we have been able

to find, only 30 per cent showed actual signs of cardiac insufficiency.

As a rule, following treatment, the irregularities have cleared up. Walker, in the Journal of the American Medical Association, April 1, 1933, reports one case of a male, aged 39, with marked symptoms, and marked findings suggestive of hypothyroidism in which thyroid extract removed all symptoms and signs except the auricular fibrillation. On treatment also low blood pressure or high blood pressure usually returns to normal in this condition. We must remember, however, that there is a possibility of a preexisting heart disease to which has been added the hypothyroid cardiac syndrome.

Cases having had a total ablation of the thyroid in cardiovascular disease apparently reach their lowest basal metabolism in three to eight weeks after operation. Not all of these cases show signs of myxedema, but practically all of them require small doses of thyroid to keep them comfortable. A basal metabolism test should be done on these cases, and their clinical symptoms checked carefully about one month after operation. They should be followed until their cardiac condition and clinical symptoms are stabilized.

It is an interesting fact that cases of myxedema produced by removal of the thyroid gland require, as a rule, much smaller doses of thyroid to keep them in equilibrium than do cases of myxedema occurring from other causes.

In treating cases of hypothyroidism from any cause, we believe that it is wisest to give a thyroid tolerance test, being careful to use the same brand of thyroid throughout the test. We again call attention to the fact that the English product is only one-fifth as strong as the American product. We believe that if a patient is started on one grain of thyroid extract of some standard American brand, the daily dose increased by 1-10 grain each day until the tolerance has been established or the desired result obtained, that no untoward effects will be produced. We think this method is preferable to using thyroxin, since the margin of toxicity is so much greater in the use of thyroid extract than in the use of thyroxin.

DR. T. E. ROGERS (Macon): Dr. Brittingham's paper is very timely. This is a condition that I think we have overlooked in the past. About five years ago I heard Dr. Christian read a paper on myocarditis, and he said he did not understand the cause of myocardial failure with no physical signs evident other than the failure of the heart. Soon after that, Sutton and Lueth came out and called myocarditis coronary disease; on the basis of coronary disease they explained this myocardial failure that Christian did not understand at that time.

Why this myocardial failure? From coronary disease, the heart muscle does not get enough blood. What have we in hypothyroidism? In hyperthyroidism you have a hypertension with a long pulse pressure. In hypothyroidism you have usually a low blood pressure, with a short pulse pressure. Consequently, your heart muscle does not get enough blood,

and without this sufficiency of blood supply you are bound to have a weak heart muscle.

When you do your cardiogram on these patients, as Dr. Brittingham has told you, you find a low amplitude in all your curves, very much the same as you do in diabetes. The treatment is simple. It is very effective to give them thyroxin, or, as Dr. Davison brought out, thyroid tablets.

This is one condition where we see patients that are inefficient from any standpoint, where we can get wonderful results if we will bear it in mind and give them the proper treatment.

DR. JOHN W. BRITTINGHAM (Augusta): I am very grateful to Dr. Davison and Dr. Rogers for discussing this interesting case. I am particularly glad that Dr. Davison mentioned the fact that some of these patients have high blood pressure and that these pressures have been made normal by administration of thyroid extract. In other words one should not leap at the diagnosis of hypothyroidism simply on the basis of low blood pressure.

I am also glad that Dr. Davison called our attention to the relatively increased toxicity of thyroxin over thyroid extract. My patient experienced a typical attack of angina pectoris after one seventy-fifth of a grain of thyroxin. The variation in strength of the brands of thyroid preparations was a timely point.

I was very pleased to hear Dr. Rogers agree that this condition is probably a great deal more prevalent than we have been led to believe. Perhaps some of the efficacy of the time-honored potassium iodide in so many patients in middle life is due to its help to deficient thyroid glands. Attention is again called to the value of the electrocardiogram in the diagnosis of this type of myocardial abnormality.

THE TREATMENT OF CIRRHOSIS OF THE LIVER WITH INSULIN

Abstract of an Article by John E. Walker, M.D., of Columbus, Ga., and Wiley D. Wood, M.D., Camp Hill, Ala., published in the *Journal of the American Medical Association*, July 20, 1935, volume 105, pp. 196-197.

A patient suffering from cirrhosis of the liver and requiring abdominal paracentesis at intervals of twelve days was placed on fifteen units of insulin subcutaneously three times a day before meals. He was also given a diet containing approximately 400 Gm. of carbohydrate daily. The insulin and the high carbohydrate diet were continued for a period of three months.

On this treatment, the intervals between paracentesis gradually lengthened, until finally it was no longer necessary. The patient returned to work. Altogether paracentesis was performed 32 times.

Due to the generally hopeless prognosis in cirrhosis of the liver, it is believed by the authors that the insulin combined with a high carbohydrate diet was responsible for the apparent recovery of this patient. The case is reported in the effort to encourage further trials of this method of treatment.

HOOKWORM DISEASE AS A FOCUS OF INFECTION

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The medical profession and the general public are prone to consider the question of hookworm disease a closed subject. As far as our own State is concerned, an excellent campaign has been carried out in the schools of some of our more prosperous counties. Many rural schools which are most urgently in need of attention have been neglected. At the U. S. Marine Hospital, Savannah, a routine examination is made for intestinal parasites and ova. Approximately 50 per cent of the young patients from this region are found to be carriers of the disease, and some of them heavily infested. Recently a prominent practitioner told me he had never treated a patient for hookworm infestation in his entire career.

It would appear that the subject is not closed, and that the profession and health authorities should again be reminded that the disease, in a lighter form, is still with us. In fact in some communities the carrier rate approaches 100 per cent.

Known in various parts of the world as miner's anemia, Egyptian chlorosis, tunnel anemia, tropical gastralgia, Porto Rican consumption, etc., hookworm disease is widespread.

Patients with mild infestation may continue to enjoy fair health without ever coming under the care of a physician. It is the hookworm disease as encountered by the practicing physician that is being discussed in this paper.

Outspoken disease is easily recognized by all physicians. It is the obscure disease, the type associated with remote foci of infection, which consumes time and in spite of all our efforts often escapes accurate diagnosis. Reference is made to such vague cases as choroiditis, vague abdominal distress, urticaria, allergic diseases in general, and neuritis. When tonsils, sinuses and other foci have been excluded, hookworm infestation may be the

cause. A brief resume of the essential facts of hookworm disease may be in order.

Etiology. There are two common parasites¹ *ankylostoma duodenale* or the Old World hookworm, sometimes causing acute typhoid-like symptoms with copious intestinal hemorrhages¹. It is rare in this country². *Necator americanus*, the endemic form in America, causes little or no symptoms when present in small numbers, and practically the universal infection in the tropics. Pigs are carriers of both species⁴.

In addition to the above there are several varieties which occur in dogs and wild animals. These are occasionally found in man, but apparently are not the cause of widespread disease.

The *life history* is well known. The eggs hatch in moist warm sand. The embryos mature, moult and become infective in three days, penetrate the skin and travel by blood stream to the lungs, up the trachea to the pharynx, down the esophagus, through the stomach and anchor in the duodenum, jejunum and ileum, but not in the large intestine. It takes about six weeks after infection for ova to appear in the feces. The period of three to four weeks after infection corresponds to the period of the highest eosinophilic count, and for some of the most distressing symptoms. This is important because ova have not yet appeared in the feces. Fever and severe bronchitis are apt to be present during this stage. While this is the usual pathway, it has been repeatedly demonstrated that infection by drinking contaminated water is possible, and probably plays an important role in some heavily infested communities. Eating fresh, unwashed vegetables is a possible source of infection. The symptomatic sequence, ground-itch, cough, hoarseness and anemia, was known before the parasitic nature of the disease was recognized.

Prevalence. A universal infection in the tropics, becoming less severe and less frequent in temperate zones, except in mines where it again becomes universal and severe. Note the experience of laborers in the St. Goddard Tunnel. It is not endemic in this country north of Johnson City, Tenn.

Pathology. The mature worms anchor in the intestines and a constant stream of blood

passes through them. However, some authorities are insistent that unless there are large numbers producing severe anemia and edema, clinical hookworm disease, treatment is not indicated. They have been interested in communities rather than individuals.

According to many workers an anti-coagulin is formed in the anterior part of the bodies of the worms. It explains the observed submucous hemorrhages and oozing from bites, and seems to indicate that the parasites function as tiny leeches. Many patients with hookworm are apt to bleed excessively from tonsillectomy and other minor operations.

In the mild forms of the disease there may be vague symptoms referable to the abdomen, such as epigastric distress, loss of appetite, constipation or diarrhea; undigested food particles are sometimes passed in the feces. The relationship of hookworm infestation to pellagra is an interesting one and deserves further investigation. It is certain that patients with hookworm disease also show some of the objective signs associated with pellagra. Achlorhydria is common to both. The geographic distribution of the epidemic type of pellagra is strikingly similar to that of heavy hookworm infestation.

Immunity. There is no absolute immunity, but the disease is less prevalent among negroes and Philipinos than among the native white population. The general opinion is that the hookworm burden is slowly acquired and slowly lost. Without treatment the worms are gradually lost, usually in three years, but exceptional cases have continued for fifteen years. There is no direct relationship between the number of worms and the severity of the infection. The mild infections may cause little trouble as long as the food supply is adequate and varied, and there is no acute intercurrent disease. However, the combination of hookworm and malaria presents a serious problem.

Prognosis. In children the removal of the worms is often followed by cures little short of miraculous, but in adults convalescence is often slow and tedious. The hemoglobin once reduced to a low level is apt to remain so for a long time. Iron and arsenic do not seem to hasten recovery. A liberal diet seems

the best remedy but rapid and complete recovery must not be expected too soon.

No case of juvenile type of tuberculosis should be permitted to escape examination, and if positive, treatment for hookworm should be instituted. Cases of chronic iritis, conjunctivitis, neuritis, gastralgia, dilated heart, diseases commonly associated with remote foci of infection, should all be examined for hookworm. Gratifying results will often follow treatment.

Treatment. Thymol and betanaphthol have fallen into disuse, though recently both Stiles and Lane have recommended a return to the use of particulated thymol. Chenopodium is still used in enormous amounts in spite of numerous reports of intoxication and death from its use². The margin of safety between the effective dose and the fatal dose is too small. Carbon tetrachloride has been given to millions with excellent results. Only a few cases of severe intoxication and death have been reported from its use. However, it must be remembered that carbon tetrachloride is a poison and causes some liver damage, and may cause serious intoxication and death in a few patients who are not in proper calcium balance, or who already have a liver damaged by alcohol or other liver poisons. Intoxication can be prevented by proper dietary precautions. Prompt treatment with calcium gluconate will counteract the intoxication in the milder cases. The rationale of this drug has been very beautifully demonstrated on dogs³.

The drug of choice is tetrachlorethylene⁵. Though this drug has an appearance quite similar to carbon tetrachloride, its action is entirely different. It causes no liver damage. Lamson was unable to produce liver damage in dogs by giving 3 cc. doses every few days for nearly a year. It causes a slight anesthesia when given in large doses, but is only slightly absorbed and no cases of serious intoxication have resulted from its use. Both carbon tetrachloride and tetrachlorethylene are ineffective against *Ascaris*. Both cause migration of *Ascaris* and are therefore contraindicated when *Ascaris* infection is widespread.

Lamson, Minot and Robbins³, following extensive experimentation arrived at the following conclusions:

1. Carbon tetrachloride has been found in practice to remove 95 per cent of the worms in patients infested with *Necator americanus*. It is somewhat less effective against *ankylostoma duodenale*.

2. Doses of from 2.5 cc. to 3 cc. in adults have been found to be as effective as larger doses.

3. Intoxication from carbon tetrachloride has been shown to be due to the following complications:

- (a) Irritation or mechanical obstruction by *Ascaris*.
- (b) Chronic or acute alcoholism.
- (c) The presence of undigested food in the intestinal tract.
- (d) Calcium deficiency.

4. When both the calcium ion and fibrinogen content of the blood are low, intestinal hemorrhages may be uncontrollable.

5. Intoxication can probably be prevented by:

- (a) Avoiding the administration of carbon tetrachloride to patients with ascariasis, without preliminary treatment for round worms.
- (b) Refusing treatment to alcoholic addicts.
- (c) Having the patient avoid alcohol or food shortly before or after carbon tetrachloride administration.
- (d) Insuring an adequate calcium reserve in all persons treated.

6. Cases of intoxication due to lack of calcium in dogs have been successfully treated by proper calcium therapy. Theoretically there should be the same response in man.

7. A review of the reports by the International Health Board of the use of carbon tetrachloride in hookworm disease shows that most cases of intoxication fall into the groups as here described, which are either preventable or susceptible to treatment.

• Report of Cases

Case 1. Tentative Diagnosis: Epilepsy.

A white clerk, aged 25, was admitted for attacks of unconsciousness and mild epileptiform seizures. There had been no history of previous attacks. The physical examination was essentially negative; the spinal fluid was also negative. The white cell count was 6,300; eosinophils 7 per cent. The feces contained numerous hookworm ova. The patient was

treated twice with carbon tetrachloride, making an uneventful recovery.

Case 2. Tentative Diagnosis: Infectious Arthritis.

A white Georgia farmer boy, aged 18, was admitted to the hospital with rheumatic pains in his knees and elbows. The grossly diseased tonsils were removed, but little improvement followed. The feces were found to contain numerous hookworm ova: the patient was treated with 3 cc. carbon tetrachloride, and made a slow but steady improvement, and was discharged well in fifty days.

Case 3. Tentative Diagnosis: Duodenal Ulcer.

An Alabama farmer, aged 25, admitted for a history of intermittent pains in epigastrium, slight shortness of breath, poor appetite, could eat only few mouthfuls at a time, and was passing undigested food in his stools. There was a slight loss of weight. At time of examination the patient weighed 138 pounds, and appeared poorly nourished. X-ray examination of gastro-intestinal tract was negative. White blood count was 8,400, with 2 per cent eosinophils. Feces were positive for hookworm ova. The patient was treated, but with no relief of symptoms; the stools were found still positive, but became negative after second treatment, and he was discharged improved. A slow improvement to complete recovery should follow.

Case 4. Tentative Diagnosis: Acute Appendicitis.

A Georgia farmer, aged 39, was admitted to the hospital with sudden, cramp-like pains in abdomen, followed by nausea and vomiting. This patient had never had a similar attack, although the abdomen was often swollen and the appetite poor. Abdominal tenderness, which was acute on admission, subsided, after an enema and ice bag to abdomen. The white blood count was 12,700 with 2 per cent eosinophils. The spinal fluid was negative. X-ray examination of gastro-intestinal tract showed pylorospasm. The feces showed numerous hookworm ova and the patient was treated expectantly for five days when it was finally decided not to operate. Following routine treatment with carbon tetrachloride, his symptoms subsided. The white blood count became normal, and the patient asked to return to work.

Case 5. Tentative Diagnosis: Iritis.

A Georgia farmer, aged 22, was admitted with burning sensation in his eyes, and poor vision in right eye of two weeks duration. The consultant's diagnosis was plastic iritis, and he was advised to have his tonsils removed as a possible focus of infection, as they were enlarged, cryptic and contained pus. This was done without relief of the eye symptoms. There was a persistent eosinophilia and the patient was treated with carbon tetrachloride, with very rapid relief of symptoms.

Case 6. Tentative Diagnosis: Recurrent Conjunctivitis.

A white deck hand, aged 23, was admitted for red and swollen eyes. This illness began insidiously

with pain and burning in both eyes, four days previously, and had become rapidly worse, until he could not hold his eyes open. There had been similar attacks every summer for the past five years. The conjunctivae were red and swollen in both eyes, and there was marked photophobia. His tonsils had been removed. The feces showed numerous hookworm ova. The patient was given atropine and cold packs. He was treated with carbon tetrachloride, and slow convalescence followed. The second treatment was given ten days later, and the patient slowly recovered and was discharged to duty.

Case 7. Tentative Diagnosis: Renal Calculus.

A white boy, aged 20, was admitted to the hospital with a pain in right side of his abdomen, and in the small of his back. This pain had begun six months previous to admission, but had grown worse, and frequently radiated to the region of the scrotum. The patient was seen in consultation with a genito-urinary specialist. The physical examination was negative. The white blood count was 7,300, with eosinophils 5 per cent. Examination of feces showed the presence of hookworm ova. Treatment with 3 cc. of carbon tetrachloride was followed by complete recovery and return to duty in fourteen days.

Case 8. Tentative Diagnosis: Sciatic Neuritis.

A Georgia farm boy, aged 19, complained of pain down the left leg, along the course of the sciatic nerve, which began about a month before admission to the hospital and had been getting worse. The provisional diagnosis was sciatic neuritis due to a focus of infection. However, the tonsils were not infected and an x-ray of the knees and hips was negative. This patient was found to have hookworm infestation. He was treated twice before feces became negative. His symptoms rapidly improved and he was discharged recovered.

Case 9. Tentative Diagnosis: Cardiac Neurosis.

A white American seaman, aged 21, was admitted because of precordial pain and conscious, irregular heart beat. He was a tall, spare male of poor posture, very much concerned about the irregularity of his heart action. There was frequent extra systoles. Hookworm ova were found in the feces. Three treatments were necessary before a negative examination was obtained. The heart became regular, and although convalescence was prolonged, he was discharged improved. Nine months later a letter advised that he had gained 35 pounds and had enlisted in the army.

Case 10. Tentative Diagnosis: Pulmonary Tuberculosis.

A graduate nurse of 29 was admitted to the hospital complaining of weakness and headache. For the past month she had noticed a feeling of weakness and easy fatigue. She has headaches, night sweats and an elevation of temperature in the afternoons. There had been a slight productive cough. She had lost about 15 pounds in the past six months. X-ray of chest was negative. The sputum was repeatedly nega-

tive for tubercle bacilli. There was an irregular temperature varying from 38° C to 36° C. The pulse ranged around 100. The white blood count was 12,100; eosinophils 1 per cent. Hemoglobin 60 per cent (Talqvist). Feces contained the ova of hookworm. Treatment was given with carbon tetrachloride 3 cc. She made an uneventful recovery, and returned to work.

Case 11. Tentative Diagnosis: Acute Nephritis.

A filling station worker, aged 19, had had swelling of the face and legs for about ten days and was getting worse. Examination showed puffiness of the face and pitting edema of the legs to the knees. The non-protein nitrogen was 47 mg. per 100 cc. of blood, and urine showed trace of albumin with numerous pus cells. The white blood count was 5,300, eosinophils 3 per cent. Feces showed hookworm ova. This patient was treated with 3 cc. of carbon tetrachloride, made a slow recovery and was discharged to duty in sixty days.

Discussion

While hookworm disease afflicts, more seriously, those who come in close contact with the soil, mild cases are sufficiently widespread in the population to merit more serious consideration.

The children of our heavily infested communities too often have the sequence eczema-asthma for there not to be more than an accidental relationship.

The numerous cases of trench nephritis and trench feet which occurred during the World War under hopelessly insanitary surroundings, may have been examples of hookworm disease.

Conclusion

A series of eleven cases of various obscure diseases which were greatly benefited or cured, following treatment for hookworm has been presented. It is suggested that many cases of hookworm disease are mistakenly called nephritis, asthma, appendicitis and so forth.

The relationship of hookworm to the type of chronic conjunctivitis often prevalent among the school children of our State, merits further serious investigation.

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FIRST MEETING OF THE HOUSE OF DELEGATES OF THE MEDICAL ASSOCIATION OF GEORGIA, ATLANTA, MAY 7, 1935

Abstract

The first meeting of the House of Delegates of the Eighty-Sixth Annual Session of the Association convened at the Biltmore Hotel, Atlanta, 2:30 P.M., May 7, 1935.

The roll was called; a quorum was present.

The President appointed a Reference Committee as follows: C. W. Roberts, Chairman, Wm. R. Dancy, Chas. H. Richardson, Wm. A. Mulherin, and J. M. Smith.

Reports of the following officers were read and submitted: President, President-Elect, First Vice-President, Parliamentary, Secretary-Treasurer, and Chairman of Council.

Reports of committees by chairmen were as follows: Economics, Arrangements, Medical Defense, Hospitals, Necrology, Cancer Commission, History, Abner Wellborn Calhoun Lectureship, Crawford W. Long Memorial Prize, L. G. Hardman Loving Cup, Advisory-State Board of Health, Advisory-Woman's Auxiliary, Crawford W. Long Bronze Statue, Hookworm Disease Prize, Delegates to the American Medical Association, Fraternal Delegates to Other State Meetings, Maternal Mortality and Infant Deaths.

Second Meeting of the House of Delegates, May 10

Auditing Committee of the Council, reported as follows: "We have carefully examined the books of the Secretary-Treasurer and found them in order, all disbursements itemized and receipted invoices on file which tally with the bank account."

Motions Adopted

That an Executive Committee, composed of three members of the Council, be appointed by the Chairman each year, to assist the Editor and Business Manager and serve as a Publication Committee.

The Editor was authorized to deliver all material for publication in the Journal to his successor to be elected at this session so that he might assume his duties as Editor with the June issue of the Journal.

The second Wednesday in March of each year was designated as the time for an annual meeting of the Council.

The names of Allen H. Bunce, Atlanta, and V. H. Bassett, Savannah, were added to the personnel of the Sub-Committee on The History of Medicine in Georgia.

Annual dues to the Association for 1936 are to be six dollars (\$6.00), the same as for the years 1934-35.

Approved the report by the Committee on Hookworm Control Prize in its refusal to award the prize to any one on account of insufficient material submitted by any one person for consideration.

That all activities in the future to promote legislation are to be limited to a few subjects.

The proposed Basic Science bill was recommended for passage at the next session of the General Assembly of Georgia.

Recommended that counties provide funds for hospitalization of the indigent within its borders.

That all suggestions for changes in the Constitution and By-Laws be carefully considered before being submitted.

That all problems which may arise be referred to standing committees without the creation of special committees, in so far as possible.

That all policies which control medical activities in Georgia is a function which can only be handled properly by the medical profession, because they only are qualified to intelligently advise and control such procedure.

That the expenses of the scientific exhibit at annual sessions be paid by the Association and that recognition be given those who have the best exhibits in the form of certificates or ribbons, or both.

That the Department of Public Health of Georgia and the medical profession should work together to accomplish its purpose, and the Department should use all reasonable means to carry out the public health program by the utilization of the medical profession in promoting its policies.

That the promotion of medical education in Georgia be under the supervision of the Medical Association of Georgia, except, by right that which is a function of the medical schools.

That the resolution, "Reallocation of Counties and Districts for the Purpose of Designating District Societies," be referred to the Council for a report and recommendation at the next annual session of the Association.

Recommended the publication of the report by the Secretary-Treasurer which covered a period of fifteen years during his incumbency. (Published in the May, 1935 issue of the Journal.)

That a medical economic survey be made in a cross section of the state which may be representative of the whole state.

Approved the report of the Reference Committee on Medical Economics as adopted by the special session of the House of Delegates of the American Medical Association at Chicago, February, 1935.

That the program for group hospitalization sponsored by the Georgia Hospital Association be approved.

The Association approved the report of the Committee on Economics, as follows: to study the economic conditions in Georgia, to formulate principles of procedure which may be suggested by any county society, to advise county societies in reference to plans suitable for their localities, to report to the House of Delegates at the next annual session, to cooperate with the Bureau of Economics of the American Medical Association.

That to promote the legislative program of the Association a campaign of education for the doctors be undertaken before the General Assembly of Georgia convenes in 1937.

Approved the advice of attorneys for the Association to prevent suits for alleged malpractice.

Approved the report of the President, Mrs. J. E. Penland, of the Woman's Auxiliary.

Approved the report of the Cancer Commission.

Approved the report of the Abner Wellborn Calhoun Lectureship Committee.

Approved the report of the Advisory Committee to the Woman's Auxiliary.

Approved the report of the delegates to the American Medical Association.

Commended our fraternal delegates to other state meetings for promoting good fellowship. Authorized the Council to make some agreement with the Georgia Dental Association and the Georgia Pharmaceutical Association whereby our fraternal delegates to their meetings might be given a short time, perhaps ten minutes, to address their meetings or read scientific papers, and for their delegates to our annual sessions to be given an equal period for addresses or to read scientific papers.

Approved the report of the Advisory Committee to the State Board of Health in reference to its nursing service policy and the administration of county health departments.

Recommended that the original agreement of one dollar per capita for examinations of people on relief rolls of the Federal Emergency Relief Administration and employees of the government on relief work be adhered to and insisted upon; and that mileage be paid physicians to render medical service for any and all classes of people on relief rolls or relief work.

Approved a resolution to explain the disadvantages of the socialization of medicine to the students at our medical schools.

Approved a resolution for the appointment of a committee from the Board of Trustees of the American Medical Association to study the problems related to birth control.

Approved the report of the Committee for the Study of Maternal Mortality and Infant Deaths and suggested that the Advisory Committee to the Woman's Auxiliary make an abstract of the facts and in such form as to be suitable for discussion by members of the Auxiliary before lay organizations.

Proposed amendment to ARTICLE VIII, SECTION 1. of the Constitution and By-Laws by Substituting the word "shall" for the word "may" in the first line. When amended to read as follows: "The House of Delegates shall provide for a division of the scientific work of the Association into appropriate sections, and for the organization of Councilor District Societies to be composed exclusively of members of the component county societies."

Proposed amendment to ARTICLE IX, SECTION 3, part of lines 5, 6, 7, 8, 9, which reads: "The Councilors shall be elected at the same time, but on nomination by their respective District Societies at the annual meeting of such Societies preceding the session of the Association at which the vacancy occurs." To be changed and amended to read: "The

Councilors shall be elected at the same time on nomination by their respective District Societies at the annual meeting of such societies preceding the meeting of the Association at which the vacancy occurs, but if no nomination from the District Society is brought before the Association, the nomination for Councilor may be presented from the floor." The balance of Section 3 to remain unchanged.

Appropriated a sum not to exceed \$150.00 to help the local committee defray the expenses of the scientific exhibit at this annual session.

Appropriated the sum of fifty dollars to buy a cup to be awarded the district organization of the Parent-Teacher Association which does the best health work during the next fiscal year.

Extended a vote of thanks to the Reference Committee for its excellent work.

Reports of officers and committees will be published in subsequent issues of the Journal.

PRESERVATION OF LEARNING ABILITY AFTER TOTAL REMOVAL OF THE CEREBRAL CORTEX*

FRED A. METTLER, Ph.D.
Augusta

The complete removal of the cortex of one of the cerebral hemispheres has been done a number of times on the human. The fact that following an operation of this type the patient may still carry on to a greater or lesser degree normal sensory and motor functions has attracted wide attention. Although following hemidecortication marked visual defects are found, auditory and somatosensory functions do not appear to be markedly impaired. Motor function, though affected, is not the marked spastic type which usually follows loss of cortical control. In order to explain these phenomena we must consider the theory of the vicarious function of the remaining cerebral hemisphere, which assumes that it carries on the physiological burden of the missing cortex. This implies a rearrangement of neurone pathways difficult to understand in anatomical terms. There is another more plausible explanation of these findings which is consistent with preestablished facts and also has experimental data to support it.

While it is true that scotomata occur in the visual fields corresponding to the cortical loss, the patients appear to be able to hear

equally well with either ear. This seems a surprising fact since we are accustomed to consider the auditory pathway as crossed. This is not true, as there are uncrossed components in the auditory pathway which ascend in the medulla and pass to the hemisphere of the same side as a given cochlea. It has been shown physiologically¹ that the uncrossed tract is capable, when functioning alone, of carrying an auditory load (10.6 decibels) which compares very favorably with the load carried by the crossed tract (9 decibels). Here then is an explanation for the apparent lack of hearing loss since each cochlea sends fibers to both hemispheres. It has also been shown by previous investigators^{1,2,3,4} that even complete removal of both cerebral hemispheres does not produce absolute deafness or blindness. (A dog still possesses a residual auditory capacity of about 60 decibels following complete cortical removal!).

Thus it has been proven that even though all the cortex be rendered non-functional, a dog can still be trained to respond (such as lifting a paw) when a strong visual, auditory^{2,3} tactile or thermal stimulus⁴ is applied which ordinarily (without previous training) would not evoke such a response. We must conclude from this evidence that subcortical centers (in the thalamus) are capable of appreciating sensory stimuli independently of the cortex. They can exert an influence upon the motor mechanism and this sensomotor association is modifiable by training so that subcortical motor mechanisms can be activated even though the cortex be absent.

Therefore, not only does a theory of vicarious cortical functioning become superfluous in the light of the law of physiological safety (as shown above in the case of the uncrossed auditory pathways) but also because subcortical mechanisms themselves are capable of independent neural activity.

It must not be assumed that the cerebral cortex is a superfluous neural superstructure. It can easily be shown that although visual and auditory impulses are appreciated, the acuity of these senses is remarkably diminished. It is doubtful if an animal can do

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THE JOURNAL

OF THE

MEDICAL ASSOCIATION OF GEORGIA

Devoted to Welfare of the Medical Association of Georgia

478 Peachtree Street, N.E., Atlanta, Ga.

OCTOBER, 1935

BROMIDE INTOXICATION

Bromides were discovered in 1826, introduced into therapy in 1840, used by physicians and patent medicine venders alike, with good and bad results; but only in the last decade have physicians generally come to recognize the importance of bromide intoxication when making differential diagnoses of stuporous and maniacal patients.

In 1901, Landenheimer was the first to recognize the influence of the intake of chlorides on the retention of bromides. Since that time many observers have confirmed his experiments and have brought relief to their patients by substituting appropriate doses of table salt for the customary dose of a bromide mixture, omitting all other drugs and supplying an adequate fluid intake.

The clinical picture of bromide intoxication is variable. Confusion, stupor and coma are common, and frequently the condition is diagnosed as uremia or diabetic coma until laboratory aid is given. All patients are not stuporous, however, some experiencing difficulty in sleeping, are irritable, have anorexia and lose weight. An eruption may or may not be present. The pupils are frequently unequal and react to light sluggishly, suggesting paresis. Conjunctivitis may be present. As the condition progresses the speech becomes thick, the tongue is coated, swallowing is difficult and the reflexes are diminished. Delirium is common and mania is not infrequent. The history of taking bromides is difficult to elicit because of the patient's ignorance of the presence of such drugs in the medicine he has taken. Indeed, he may not have had any medicine for more than two weeks.

Once thought of, the diagnosis is simple. Wuth describes the procedure as follows: To 25 cc. of the patient's urine, add 1.0 Gm. of animal charcoal, mix well, allow to stand

for a few minutes and filter. To 5 cc. of the filtrate, add 1 cc. of 30 per cent trichloroacetic acid and 1 cc. of 0.5 per cent gold chloride solution. A brown shade denotes a positive reaction. Further confirmation may be had by doing a determination of the blood bromides, using the Walter modification.

Most patients with bromide intoxication recover within a few weeks after proper treatment is instituted, improvement being noted after the first week. If the patient is unable to swallow, 1000 cc. of a physiologic solution of sodium chloride should be administered intravenously or subcutaneously every eight hours. Glucose may be added to the solution to provide nutrition. With improvement, the patient is given 4 to 8 Gm. of table salt each day, large amounts of fluids and a high calorie diet. Frequently the symptoms are augmented after treatment is begun, due to the increased concentration of bromides in the blood, but other drugs must not be used.

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FEMALE UROLOGY

In considering the etiology, diagnosis and treatment of urologic diseases one is impressed by the importance of anatomy, physiology and pathology not only of the urinary tract but of the genital organs of the particular sex. It is true that many conditions such as renal and bladder tumors, infections and calculi occur without any influence of changes in the closely associated genitalia, but frequently the etiology of urologic disturbances in women is found here.

Infections of the vagina and cervix may be the cause of recurrent attacks of cystitis. With certain inflammations and neoplasms of the uterus, tubes and ovaries symptoms referable to the urinary tract are often present and at times will be the chief complaint. It is obvious that uterine and ovarian tumors may cause pressure on the bladder and ureters, and when malignant actually invade them. Salpingitis, pelvic peritonitis and abscesses are prone to involve the peri-ureteral tissues with resulting adhesions, fibrosis and ob-

struction. Occasionally a vesical fistula is nature's route for draining a pelvic abscess. Most frequently involving the ovaries and surrounding structures, endometriosis has been found in the urinary bladder, presenting gross appearances of a malignant tumor and causing hematuria, dysuria and frequency of urination. Then too, one is not infrequently confronted with the symptoms of pain suggesting a gynecologic disorder which cannot be found. A careful urologic investigation will often reveal the cause of such obscure symptoms.

Pregnancy and parturition are physiologic changes bearing an important relation to certain urinary tract diseases in women. From detailed studies of the kidneys and ureters during pregnancy in normal and abnormal conditions, urologists are now able to recognize, interpret and treat the complications which were so frequently hazardous to mother and child. Injuries to the supporting pelvic tissues during childbirth predispose to cystoceles and in turn chronic urinary stasis and infection. The one-time frequent post-partum vesico-vaginal fistula is rarely seen with the modern obstetrical practice.

Since the advent of radium for pelvic neoplasms and other conditions, vesico-vaginal fistula and changes in the ureteral and peri-ureteral tissues producing obstruction have resulted as serious complications. For this reason it is necessary in pelvic irradiation that great care be taken to avoid injury to the bladder and surrounding structures. It has also been proven of value to observe those cases receiving large doses, giving ureteral dilatations at intervals in order to prevent the dense ureteral obstructions from forming and the subsequent renal damage.

JAS. N. BRAWNER, JR., M.D.

The JOURNAL would like to record the scientific work of Georgia doctors. It earnestly requests, therefore, that each physician in the State who publishes a contribution in some other medical periodical submit an abstract of the article for these columns.

The Annual Conference of Secretaries of Constituent State Medical Associations will be held in Chicago, November 15-16, 1935.

PYELITIS

Pyelitis occurs in about 1 per cent of pediatric patients. It is not uncommonly overlooked, frequently on account of the difficulty of collecting urine from babies. The chief offending organism is the colon bacillus. Occasionally other pathogenic organisms occur. A small number of cases of pyuria are caused by abnormalities of the genito-urinary tract, such as calculi and ureteral strictures. In the remaining large number pathologic observations are notoriously few.

Urinary infections may be either primary or secondary. In the young secondary infections occur more than in older children—following gastro-intestinal disorders in the summer months and respiratory infections in the winter.

Children with fever should have careful, frequent urinalyses, particularly girls, since pyelitis occurs more frequently in girl babies than boy babies. A single urinalysis will not rule out pyelitis. Fewer pus cells are found in the urine at times when the body temperature is highest, more pus cells when the fever is lowest, and, occasionally, innumerable pus cells are found in a specimen after several prior specimens have been examined.

The course of the disease is as variable as any disease of infancy and childhood. A child may be extremely ill, with high fever, prostration, and other untoward signs of an acute infectious process. The next patient may be comfortable, with no fever, or perhaps an accidental finding of an increase in the body temperature, and many pus cells in the urine. Not infrequently, after the fever subsides, pus cells and bacteria are found in the urine. Unless some genito-urinary infection is suspected, the disease may easily be confused with malaria, typhoid and other febrile diseases. The diagnosis can only be made by an examination of the urine.

Patients who are febrile should be kept in bed. Alkalis, such as sodium citrate and sodium bicarbonate, are usually given. They act as saline diuretics, bactericidal action on the colon bacillus never having been proven. In fact, this organism grows readily in most alkaline urines. A widely used remedy is urotropin, which may be given in doses of

1 to 2 grains five or six times a day to an infant of 1 year of age, and in larger doses to older children. This drug acts in an acid medium, and cannot be combined with alkaline treatment. A common practice is to alternate urotropin and alkalis at intervals of every four or five days. Various other urinary antiseptics have been developed and recommended, including hexylresorcinol and intravenous injections of mercurochrome. Autogenous vaccines, various nonspecific proteins, ketogenic diets, and other procedures are reported in the literature with enthusiasm.

The acute cases usually clear up in a week or so. It cannot be too strongly emphasized that persistent pyuria, or frequently occurring pyuria, means a stasis somewhere in the genito-urinary tract, and that a more careful search for its cause should be made by pyelography and other careful urological examinations. Some authors report that obstruction is found in 95 per cent of cases that have persisted longer than a month. No hard and fast rule can be laid down for medical supervision. Some acute cases will rapidly clear up while under medical observation and treatment. Occasionally foci of infection, such as bad tonsils, are found, and the pyelitis cleared up by tonsillectomy. Many gynecologists believe that pyelitis has its inception in infancy, and have a definite relation to pyelitis during pregnancy, and even to the nephritis of adult life.

WM. WILLIS ANDERSON, M.D.

LILLIAN HEARD ANDERSON LECTURESHIP IN PEDIATRICS

Dr. Thomas M. Rivers, Rockefeller Institute for Medical Research, New York City, will deliver the Lillian Heard Anderson Lecture in Pediatrics at the Academy of Medicine, Atlanta, Thursday, November 14th, at 8:00 P.M. His subject will be "Virus Diseases of the Central Nervous System." His address will include poliomyelitis, its treatment and prophylaxis; virus encephalitides, and the new virus meningitis which is attracting attention at this time.

Dr. Rivers is in charge of this field of work at the Rockefeller Institute for Medical Research and is recognized as an authority in his line. By reason of his being a native of Jonesboro and his accredited ability, he should receive a warm welcome in Georgia.

The medical profession is cordially invited and urged to attend this lecture.

THE PSYCHOLOGY OF DRINKING

It is valuable to have a few thoughts on why we consume alcoholic drinks. There are conscious and subconscious reasons. Consciously we may drink to please oral eroticism or displease ourselves or others. Or, we may think that we need stimulation and we may drink because we may imagine that if others drink we should not be "wet blankets." We may rationalize further that it is necessary to experiment with drinking or it may help us to escape from the world and bury some of our inferiorities or shyness. There are excuses which we call reasons for drinking. When we look for excuses we find them if we alone are the judges.

Subconsciously we help to bury or accelerate, annihilate or minimize some complexes through alcohol. We may identify ourselves with one of our parents who drank and thereafter drink and not know why. This may be a particularly good escape when we are surrounded by emotional environments, stresses, strains, and difficult situations. If we have had a negative transference on our parents and if they were very virtuous and adverse to drinking, we may derive great emotional outlets by being opposite to our parents and drink. In this way we may derive pleasure and at the same time punish our parents. If our parents drank and were guilty because they quarreled with each other and if they were guilty because they were too ascetic and domineering, we may escape and punish them by our drinking. If our parents were guilty we may identify ourselves and also feel guilty and subconsciously punish ourselves with drinking. In time the drink may cause further complexes and further punishment to ourselves and others.

Not only does drink inhibit the inhibitions, but it may mask frigidity and accentuate perversions. Alcoholism may be an excuse for homosexuality and may be the anlage of future personality defects, involving irritability, amnesia, sensitiveness, excessive jealousies, and even persecutory delusions. It may even affect our moral and ethical judgments when sober.

Alcoholism is the result of the conscious and the subconscious and is more influenced

by environment than heredity. The cure is largely psychological, sociological and educational. To combat an alcoholic personality one must be retrained consciously and subconsciously.

S. KAHN, M.D.

PROGRAM

SAVANNAH SESSION

April 21, 22, 23, 24, 1936

Due to a conflict in the set dates for the next annual sessions of the American Medical Association and the Medical Association of Georgia, our Council changed the dates for our next session, which will be held in Savannah, April 21-22-23-24, 1936.

This necessitates the completion of all details for our scientific program a month earlier than usual. Pursuant to this end, the Committee deems it essential that the titles of all papers be in possession of the Chairman of the Committee before January 15, 1936.

It is the primary purpose of our Association to increase the knowledge of its members, thus enabling them to become better and better physicians, and in order that this objective may be attained, the Committee earnestly requests that papers of real merit be presented; and is particularly desirous that every section of the state, both urban and rural, be represented on the program, which will consist of thirty papers. Please submit brief abstracts with titles, and bear in mind in their preparation that there will only be allowed fifteen minutes for the delivery of each paper (By-Laws: Chapter II; Sec. 2.).

As the scientific exhibit is an important part of our meetings, the Committee urges that the medical universities, general hospitals and individual members cooperate in making this feature both interesting and instructive, and that they begin, at an early date, preparing and correlating material for this exhibit.

Committee on Scientific Work

SAMUEL T. R. REVELL, M.D., *Chairman*

GEORGE A. TRAYLOR, M.D.

H. C. SAULS, M.D.

EDGAR D. SHANKS, M.D.

Secretary-Treasurer.

PARENT-TEACHER HEALTH TROPHY

For some time the relationship between medical and lay associations has become one of mutual assistance to fight ignorance and superstition. This is especially evident in the cooperation of the Parent-Teacher Association of Georgia. We are fortunate in having arrived at a plan that will mean much to the members of organized medicine and the parents and children of Georgia in preventing disease.

At the last session of the Medical Association of Georgia held in Atlanta, the House of Delegates recommended and the Council approved the appropriation of an initial amount of money which was supplemented by private subscriptions, to enable the committee to purchase a handsome trophy which is to be presented at the next meeting of the Georgia Congress of Parents and Teachers to that district which shows the best health work on a percentage basis.

Children must have been vaccinated against smallpox, they must have been inoculated against diphtheria and typhoid. Parents must have had a physical examination the past year according to the form of the Medical Association of Georgia, which was published several years ago. Janitors and maids, and all help in school cafeterias must have had a physical examination the previous year.

The Georgia Congress of Parents and Teachers has a membership of 37,000. The cooperation of doctors is sought in the effort of this large association to accomplish a tremendous amount of good in promoting the health of parents and children of Georgia.

A copy of the form of the physical examination is published in this issue of the Journal, and copies may be secured from the office of the Secretary-Treasurer.

THEODORE TOEPEL, M.D.

The Public Health is the foundation upon which rests the happiness of the people and the welfare of the nation. The care of the Public Health is the first duty of the statesman. Disraeli.—Georgia's Health.

During the quarter of a century of enforcement of the pure food and drugs act, the government has brought action against 40 alleged cancer "cures."

WOMAN'S AUXILIARY

OFFICERS

President—Mrs. Ernest R. Harris, Winder.
 President-Elect—Mrs. Wm. R. Dancy, Savannah.
 First Vice-President—Mrs. Hulett H. Askew,
 Atlanta.
 Second Vice-President—Mrs. Warren A. Coleman,
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Committee Chairmen
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 Macon.
 Public Relations—Mrs. J. A. Redfearn, Albany.
 Press and Publicity—Mrs. J. Harry Rogers,
 Atlanta.
 Jane Todd Crawford Memorial—Mrs. Eustace A.
 Allen, Atlanta.
 Research in Romance of Medicine—Mrs. D. N.
 Thompson, Elberton.

REASONS FOR A MEDICAL
AUXILIARY

When the Woman's Auxiliary to the Medical Association of Georgia was organized a foremost consideration in minds of those promoting it was its social value within the medical profession itself. Some leaders in the Medical Association of Georgia have said since there are forces within the profession as well as without which are working against its best interests, the time has come when much thought should be given to bringing about unity and solidarity in the profession. Because the social instinct is, generally speaking, more highly developed in women than it is in men, they have felt that the doctors' wives can perform a distinct service to the medical profession by helping to develop unity through fellowship between members of the doctors' families. The meetings, held at the same time as the medical meetings, serve to interest the wives, bringing out a larger attendance than in the past. The usefulness of the Auxiliary in the entertainment at various meetings is obvious.

Soon after Auxiliaries were organized the groups discovered that mere meeting together in a social way did not create sufficient satisfaction to hold them together. Thus the philanthropic function developed. A group thus interested found out community needs and undertook to perform a further service by meeting these needs that were related to the work of the medical profession. The Auxiliary has a legislative committee merely as a "reserve force" to act upon request of the Medical Association of Georgia through its Advisory Committee for the Auxiliary. An Auxiliary, to be an intelligent "reverse force" must be informed in matters of legislation touching the medical profession.

The educational and public relations functions of the Auxiliary have been most difficult to perform. It is evident that if the

members expect to become a liaison between the profession and the public it is essential that we first inform ourselves concerning proved methods of community co-operation. Realizing the necessity of health-education, the Advisory Committee has outlined a program on child psychology and heart disease and has prepared a number of three-minute talks.

It is perhaps in the realm of public relations that the Auxiliary can perform its greatest service to the profession by bringing about an understanding between the profession and the public. If we as Auxiliary members are to become a connecting link between the medical profession and women's organizations it is apparent that it is necessary for us to be willing to accept positions of leadership in such organizations. It is also apparent that if we as Auxiliary members in such positions hope to perform the functions expected of us by the profession and by the public, we must inform ourselves concerning the public hygiene problems, the health ordinances and health laws of our local community and state, and be competent to convey this knowledge to others.

SOUTHERN AUXILIARY

The Woman's Auxiliary to the Southern Medical Association will meet in St. Louis, Mo., November 20 and 21. All women attending the Southern Medical Association are invited to the Auxiliary meetings.

Members and eligible members of county Auxiliaries in these states are very cordially invited to attend the luncheon meeting Wednesday, Nov. 20, at 12:30 o'clock and the annual meeting Nov. 21 at 9:30 o'clock. The business sessions are to be conducted on schedule, allowing for special arrangements.

For the development of the Auxiliary it is important for members and eligible women to be present, because the foundation of an

organization rests on its membership and future leadership comes from it. So all women are urged by Mrs. Lee W. Rose, Chairman of Press and Publicity for the Southern Medical Auxiliary, to make their plans to go to this convention.

Tenth District Meeting

The Auxiliary to the Tenth District Medical Society held its summer meeting at Elberton, August 14, with the district manager, Mrs. D. M. Carter, Madison, in the chair.

The program follows:

Shubert's "Serenade" by Mrs. T. M. Seymour, Elberton.

Invocation by Mrs. A. C. Smith, Elberton.

Welcome by Mrs. Paul Brown and Mrs. D. N. Thompson, Elberton.

Response by Mrs. Philip R. Stewart, Monroe.

Violin solo, "Sewanee River," by Miss Phyllis Johnson, Elberton.

Address by Mrs. E. R. Harris, Winder, state President.

Vocal solo, "Blue of Her Eyes and Broken Pictures," by Miss Mary Stewart Brown, Royston.

Address, "The Wives of the Profession," by Dr. E. Fred Griffith, Eatonton.

Interesting reports were read from various delegates, the most outstanding being from the Richmond County Medical Auxiliary.

Miss Rose Newborn, Elbert county health nurse, was introduced and spoke briefly on her work and its need.

The nominating committee then submitted the following slate for officers, all of whom were unanimously elected: Mrs. Ralph Chaney, Augusta, district manager; Mrs. D. V. Bailey, Elberton, manager-elect; and Mrs. H. G. Banister, Ila, secretary and treasurer.

The twenty-five women present joined the doctors at noon for a most delightful barbecue.

During the afternoon the guests accepted the invitation extended by Mrs. D. V. Bailey on behalf of the Elbert County Auxiliary to see the picture "Orchids to You" at the Strand Theatre.

Clarke County Auxiliary

The Woman's Auxiliary to the Clark County Medical Society held its first fall meeting September 13 at the home of Mrs. G. L. Loden in Colbert.

The President, Mrs. H. W. Birdsong, presided over the meeting. The following committee chairmen were appointed: Organization, Mrs. H. G. Banister; Health Education and Public Relations, Mrs. S. S. Smith; Historian, Mrs. H. M. Fullilove; Legisla-

tion, Mrs. S. D. Brown; Hygeia, Mrs. J. Carl Holliday; Health Films, Mrs. Harvey Cabaniss.

A letter from Mrs. E. R. Harris, of Winder, President of the state Auxiliary, was read and several important plans tentatively discussed. Action on these will be taken at the October meeting, which will be held with Mrs. Harvey Cabaniss in Athens.

After the business session had been concluded, Mrs. H. G. Banister, program chairman, introduced Mrs. D. V. Bailey, Elberton, President-Elect of the Tenth District Auxiliary, who read a paper on "Wives of the Medical Profession." Mrs. D. N. Thompson, Elberton, was then introduced and gave a short talk on "Medical Research" and then read a paper "The Hand Clasp of the Auxiliary."

A piano solo by Miss Christine Loden, a reading by Miss Mary Bray and a vocal solo by Miss Russell McIntosh then concluded the excellent program.

The members were later entertained at a delightful luncheon.

Ninth District Meeting

The Hall County Medical Society was host to the Ninth District Medical Society and the Woman's Auxiliary in Gainesville on Wednesday, September 18.

The meeting of the Woman's Auxiliary was held in the banquet room of the Dixie Hunt Hotel and was called to order by the Chairman, Mrs. D. H. Garrison, Clarkesville.

The members repeated the Lord's prayer in unison, after which Mrs. Eugene Ward, Gainesville, gave an address of welcome. Mrs. Randolph, Winder, responded.

Dr. Edgar D. Shanks, Atlanta, Secretary-Treasurer of the Medical Association of Georgia, was a distinguished guest and gave an interesting as well as instructive talk on the building up of the Journal.

Mrs. J. Bonar White, Atlanta, President of the Southern Medical Association, gave a talk on membership.

Mrs. E. R. Harris, Winder, President of the state Auxiliary, was introduced and spoke most enthusiastically on plans of the Auxiliary for 1935-1936.

Mrs. W. H. Garrison, Clarkesville, read a paper on Jane Todd Crawford.

After Mrs. Charles Martin, Gainesville, read several of Sara Hays' poems, the women joined the doctors for luncheon.

The next annual convention of the Woman's Auxiliary to the American Medical Association will be held at Kansas City, Missouri, May 11-15, 1936.

GEORGIA STATE NURSES' ASSOCIATION

OFFICERS—1935

President—Mrs. Dorothy Treacle, Savannah
 1st Vice-President—Helen Branham, Waycross
 2nd Vice-President—Mrs. J. F. Hawthorne,
 Atlanta

S. O. P. H. N.

Evelyn Dugger, President, Atlanta.

G. L. N. E.

Durice Dickerson, President, Atlanta.

Private Duty Section and Finance Committee
 Mrs. Effie Akerman, Chairman, Augusta.

Examining Board
 Lillian Zuber, President, Atlanta.

G. S. N. A. Headquarters Committee
 Jessie Candlish, Chairman, Atlanta.

G. S. N. A. Executive Secretary
 Durice Dickerson, Suite 11, 131 Forrest Avenue,
 N.E., Atlanta.

OUR AIM

UNIVERSITY OF GEORGIA SCHOOL OF NURSING

MRS. EVA S. TUPMAN, R.N.
 Atlanta

Georgia nurses are rightfully proud of the fact that the University of Georgia has established a pre-nursing course which will require two years, leading to a junior college certificate. This course will be to nursing approximately what the pre-medical course is to medicine. Dr. G. Lombard Kelly, Dean, University of Georgia School of Medicine, said, "It is difficult to think of a profession for training in which one must leave the state."

This pre-nursing course will make it possible for the student to obtain the degree of bachelor of science in nursing or a master's degree if the student so desires. The course may be accomplished in four or five years, two years of which will be spent in a school of nursing which has been integrated into the University of Georgia system.

As Dr. Kelly also has said, "Georgia institutions offer excellent training at very low cost in the majority of cases. Tuition charges as a rule are considerably less and much is saved in curtailed travel." Now those students who desire to prepare themselves for the best in the nursing profession can do so without leaving the state and in many instances may spend a part of the time in or near their own homes, by matriculating in one of the schools which forms a part of the University of Georgia System.

The graduate nurse desiring to complete the theoretical requirements, may also find it possible through extension courses, or otherwise as may best suit her plans. She will receive credit for her previous training in the school of nursing provided she can produce satisfactory records from her school.

Each year brings many young women graduates from our accredited high schools and colleges, asking the same question, "What am I going to do?" Some of these young women will definitely consider nursing, others who would like to, will reject the suggestion although they are well fitted to make good in the profession. Many of them do not realize the diverse opportunities it offers, namely: teaching, public health, private duty, many varieties of institutional positions, and specialties too numerous to mention here. Others will have heard that there is an over production of nurses and will be afraid to enter an already too crowded field. Appearances and figures, however, are somewhat deceptive.

There are a great many unemployed nurses. A number of those just graduated will swell the ranks of the unemployed, yet the potential graduate nurse today has more possibilities and a wider range in the selection of her future specialty in nursing than ever before.

Why then are so many nurses unemployed? The answer is simple, if not flattering. There are too many poorly equipped nurses; true there are many reasons for the poorly equipped nurse—some have been forced back into service due to adverse circumstances. By far the greatest number, however, of those who might justly be described as unemployed, are apparently the victims of poor training and mediocre background.

This is an era of adjustments, the ever changing principles of the facts of experience useful for dealing with the values of life, while life itself is made up of continual changes. This constant changing is true in both life and education, therefore, we must have critical thinking in order to prepare for the shifting scene, and where there is a will there is a way, and those nurses, either students or graduates, who desire to advance, to seek, to get more, with hope as an attendant attitude, will find the opportunity awaiting

them at the University of Georgia in the pre-nursing or extension courses.

Since we live in a changing world we must think in terms of extending the scope and quality of nursing. In the growing need of social betterment, we must look forward to a time when all who need nursing shall receive it as a part of civic planning, and the nurse will think of herself as a public servant, helping individuals who need her service. This means higher admission requirements and a somewhat different curriculum.

During the past ten months, through the efforts of a special committee composed of members of the Georgia State Nurses' Association and of the Georgia League of Nursing Education and their friends, the arrangements for the above mentioned course were completed by the faculty of the University, and students have been enrolled for the academic year of 1935-36. The most helpful member of our committee is Dr. E. D. Pusey, Dean of English at the University, who served as the advisory member, and who arranged for the conferences between the University faculty and our committee, at which times the necessary adjustments of the curriculum were arranged.

For more detailed information in regard to any facts concerning nursing or the above courses, write or call the Georgia State Nurses' Association Headquarters, 131 Forrest Avenue, N.E., Atlanta.

*Georgia State Nurses' Association
Twenty-Ninth Annual Convention*

The Association will meet at Hotel Dempsey, Macon, November 4, 5, 6, 1935.

An excellent program with a variety of subjects has been planned. Some of the speakers on the program are: Miss Ella McNeil, National Organization Public Health Nursing; Miss May Kennedy, New York; Dr. L. C. Fischer, Atlanta; Dr. Eugene E. Murphy, Augusta; Mrs. Viola Ross Napier, President, Business and Professional Women's Club; Dr. William Hamm, Atlanta; Dr. J. D. Applewhite, Macon; Miss Alice Dugger, American Red Cross; Miss Pauline McKinley, Macon; Dr. Chas. C. Harrold, Macon.

Doctors and friends are invited to attend the open sessions.

A Mental Hygiene Institute will be conducted at the Milledgeville State Hospital, Milledgeville, November 7, 8.

Social Features

Barbecue at the home of Mr. Herbert Block, Shirley Hills.

Banquet and dance at Hotel Dempsey.

PRESERVATION OF LEARNING ABILITY AFTER TOTAL RE- MOVAL OF THE CEREBRAL CORTEX

(Continued from page 371)

more than distinguish light from dark although it can still distinguish different types of sounds (such as a pure tone from a complex one) if these be loud enough. With regard to the motor mechanism it is important to observe that in the decorticate the motor patterns are relatively diffuse and poorly controlled from the standpoint of adaptive response. Not only is the motor-cortex necessary in localizing the outflow of neural energy through the corticospinal tracts into restricted muscle groups but it is also necessary for the rapid performance of a movement and the prompt inhibition of movements which are in progress. Following complete decortication animals can initiate movement but have difficulty in attaining a rapid response state until they have been activated by repeated stimulation. Once activated, they are unable to inhibit this state of activity suddenly and must be allowed to reach quiescence by a gradual attenuation of activity in the absence of stimulation.

It is the belief of Fulton⁵ that the motor area is only activitory to the final common path and the premotor area only inhibitory. Thus spasticity does not follow a removal of the motor area alone, nor of removal of both the motor and premotor but occurs after premotor lesions. It is the belief of Hoff⁶ and more recently of Kennard⁷ that the premotor area sends fibers down to the final common path. The reported experimental data on the course of these fibers is obscure. It is the belief of other investigators that these fibers are too short to reach the final common path. Whatever the mechanism the physiological effect seems incontrovertibly.

In conclusion we may say that total cortical removal does not render an animal totally insensitive to any of the sense modalities (excepting possibly smell and taste upon which no data is available), nor does it totally destroy learning capacity or produce complete motor dysfunction.

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THE SOUTHERN MEDICAL ASSOCIATION

Loyalty to our southland has been and still is one of our outstanding characteristics. Loyalty to our institutions is equally praiseworthy and desirable. The Southern Medical Association deserves our enthusiastic support. That it fills an important medical as well as professional fellowship need is attested by its rapid growth and continued support.

The recent depression, we have all felt so keenly, caused a considerable number to withdraw their membership from this praiseworthy organization. That there were adequate reasons for resignations during the hard part of the depression is willingly conceded. With better times, however, there are now just as good reasons for rejoining.

The object of this communication is to urge the members of the Southern Medical Association to concentrate their efforts during the next two months upon securing members. New members from a number of other states have exceeded those obtained from Georgia.

In behalf of the officers of the Southern Medical Association an earnest appeal is made for members in the different cities and towns of Georgia, to make a concerted drive to increase the membership from every immediate community.

Strong support of medical organizations is becoming more and more needed. The Southern Medical Association is next to the largest organization of doctors in America. Its excellent annual meetings cover every branch of medical endeavor. The lay public often reaches its opinion as to the capability of a doctor by his attendance and activities in medical organizations. No matter how much practice a doctor has or how much money he is making he can not afford to miss meetings at which the advances and improvements in medical practice are brought out.

The next meeting of the Southern Medical Association is to be held in St. Louis, Missouri, November 19, 20, 21, 22, 1936. An excellent program is being arranged and the excellent clinical facilities afforded by this city make it important for a large attendance to be present.

Please take this as a personal appeal to our Georgia members to secure at least one new member during the next month.

EDGAR G. BALLENGER, M.D.,

Councilor from Georgia

Atlanta, Georgia.

HONOR ROLL FOR 1935

1. Randolph County, Dr. W. G. Elliott, Cuthbert, December 7, 1934.
2. Habersham County, Dr. O. N. Harden, Cornelia, December 19, 1934.
3. Monroe County, Dr. G. H. Alexander, Forsyth, January 4, 1935.
4. Franklin County, Dr. Stewart D. Brown, Royston, January 15, 1935.
5. Dougherty County, Dr. Alex R. Freeman, Albany, January 31, 1935.
6. Hancock County, Dr. H. L. Earl, Sparta, February 25, 1935.
7. Turner County, Dr. J. H. Baxter, Ashburn, February 26, 1935.
8. Ware County, Dr. Kenneth McCullough, Waycross, March 7, 1935.
9. Whitfield County, Dr. H. J. Ault, Dalton, March 8, 1935.
10. Elbert County, Dr. A. S. Johnson, Elberton, March 15, 1935.
11. Chattooga County, Dr. H. D. Brown, Summerville, April 1, 1935.
12. Worth County, Dr. Gordon S. Sumner, Sylvestor, April 2, 1935.
13. Morgan County, Dr. W. C. McGeary, Madison, April 5, 1935.
14. Hart County, Dr. A. O. Meredith, Hartwell, April 12, 1935.
15. Murray County, Dr. E. H. Dickie, Chatsworth, April 19, 1935.
16. Tri County, (Calhoun, Early, Miller) Dr. J. G. Standifer, Blakely, September 13, 1935.
17. Harris County, Dr. M. F. Haygood, Hamilton, September 19, 1935.

UROLOGY

Hepler and Scott, *Journal of American Medical Association*, August 17, 1935, in discussing "The Significance of Pyuria in Children" state that pediatricians have a tendency to evaluate the importance of pyuria in children. So many doctors assume that a few pus cells are normal or indicate contamination. A large number of pus cells point to urinary tract infection or disease. After studying a number of cases over a period of nine months in the Children's Orthopedic Hospital they have made valuable conclusions as follows:

Catheterization is imperative in urinary diagnosis in children. The amount of pus in a urine properly collected is no indication either of the kind or severity of the urinary tract infection. Many urinary lesions in children are "silent" or have misleading symptoms. Children with bone and joint tuberculosis are not commonly prone to urinary complications. Abstracted by Spencer Kirkland, M.D.

Acute poliomyelitis or infantile paralysis is now definitely known to be a communicable disease which occurs both in epidemic and sporadic form.—Georgia's Health.

GEORGIA DEPARTMENT OF PUBLIC HEALTH

T. F. ABERCROMBIE, M.D., *Director*

AGE INCIDENCE OF TYPHOID FEVER IN GEORGIA, 1934

With Special Reference to Problems In Immunity

The communicable disease reports of the physicians of the State furnish interesting data with reference to specific diseases reported by them to the State Health Department. Because of the fact that inquiries are received from time to time relative to the age at which children should be immunized against typhoid fever, it is believed that the physicians of the State will be interested in the tabulations received from them relative to the age distribution of typhoid fever for the year 1934. Some physicians do not recommend immunization against typhoid until the child has reached the age of four or five, while others advise immunization when the child has reached its first birthday.

It is believed that the following data will throw some light upon the time at which the child should be immunized, based upon the age at which children in Georgia begin to have typhoid fever. During the year 1934 there were 1252 cases of typhoid fever reported to the State Department of Health. Of this number the ages of 882 cases were specified by physicians reporting.

For convenience the age of children under 10 years is specified in Table I.

Table I

*Cases of Typhoid Reported in Georgia 1934 by
Ages Under Ten*

Age	No. Cases	Age	No. Cases
Under 1 year	1	5—6 years	14
1—2 years	1	6—7 years	27
2—3 years	11	7—8 years	23
3—4 years	8	8—9 years	29
4—5 years	12	9—10 years	26

It may be seen that there was one case of typhoid in an infant under one year of age and one under two years of age. Between two and three years of age there were eleven cases reported. This ratio is somewhat increased year by year up to age ten.

From Table II it may be seen that it is unwise to wait until the child reaches four or five before typhoid immunization is

given, inasmuch as 33 children under five years were reported as having had typhoid fever in 1934. A number of authorities advise immunization against typhoid fever when the infant has reached one year of age, and it is believed that this rule is a safe one to follow. In an area where typhoid fever is common it is unwise to defer immunization until the child has reached four or five years of age, because it is a well-known fact that many in those age groups are susceptible to typhoid infection, as shown not only in the above tables but from careful observations by a number of investigators who have had occasion to observe the progress of the disease under endemic conditions.

Table II

Cases of Typhoid Reported in Georgia, 1934, by Ages

Age	No. Cases	Age	No. Cases
0—4 years	33	35—39 years	36
5—9 years	119	40—44 years	21
10—14 years	176	45—49 years	24
15—19 years	136	50—54 years	18
20—24 years	138	55—64 years	16
25—29 years	84	65—74 years	6
30—34 years	73	75 and above	2

With reference to reactions from vaccines and sera, infants and children, provided they are normal in other respects, tolerate immunizations exceedingly well. There is no reason why an infant at one year of age should not be immunized, provided its physical condition is satisfactory, and in instances where there is typhoid in the family under bad sanitary conditions, immunization may be given even earlier than one year. At any rate it would be preferable that the child suffer some slight reaction than to risk the chance of a virulent typhoid infection.

DANIEL L. SECKINGER, M.D.,
State Epidemiologist.

Medical science has developed sera for many types of pneumonia. There are 32 types of bacteria causing the disease; serum is available for the most prevalent types. For the serum to be effective it must be administered promptly. This requires both that the disease be recognized as pneumonia early after its onset, and that the particular type be determined by laboratory tests.—Medical Society of the State of New York.

BOOK REVIEWS

Poliomyelitis—A Handbook for Physicians and Medical Students, Based on a Study of the 1931 Epidemic in New York City, by John F. Landon, M.D., Attending Physician, Willard Parker Hospital, New York, N. Y.; Special Consultant in Pediatrics, Woman's Hospital, New York, N. Y.; Assistant Attending Pediatrician, Roosevelt Hospital, New York, N. Y., and Laurence W. Smith, M.D., Pathologist, Willard Parker Hospital, New York, N. Y.; Formerly Associate Professor of Pathology, Cornell Medical College; Formerly Assistant Professor of Pathology, Harvard Medical School. With a section on orthopedic after care of the disease by Garry DeN. Hough, Jr., M.D., F.A.C.S., F.A.A.O.S., Attending Orthopedic Surgeon, Shriner's Hospital for Crippled Children, Springfield, Mass. Price \$3.00—275 pages with 18 illustrations. The Macmillan Company, 60 Fifth Avenue, New York City.

This book presents a review of present knowledge concerning poliomyelitis, with the results of a personal study of the pathology of the disease in ninety-six cases, together with clinical studies of hundreds of cases in the 1931 epidemic in New York City. There are thirteen chapters including discussions on etiology, pathology, epidemiology, symptomatology, diagnosis, prognosis and treatment. The microphotographs illustrating the pathology of the disease are especially valuable. There are appendices on nursing care, aseptic technic, public health regulations in New York City, and on administration of antitoxins and antisera. Unsolved problems are discussed clearly and without bias. The results of different methods of treatment are clearly presented. The book may be highly recommended as a timely and valuable reference in regard to the many problems presented by this disease.

WM. A. SMITH, M.D.

Treatment of the Commoner Diseases, Lewellys F. Barker, M.D. J. B. Lippincott Company, Philadelphia, 1934, pp. 394. "This book is based upon ten lectures delivered by invitation September, 1933, in the annual course of post-graduate lectures to the Academy of Medicine of Lima and Allen Counties, Ohio."

This book is a commentary on elementary therapeutics. It is based on a series of ten lectures on the more common medical diseases dealing with them from the practical standpoint. The advances in recent medical literature are interwoven with the time proven remedies of the general practitioner by the method of making "running comments" on whatever may seem pertinent.

CRAWFORD F. BARNETT, M.D.

The Modern Method of Birth Control. By Thurston Scott Welton, M.D., Walter J. Black, Inc., New York, New York. Price—\$3.00. In this small book of 159 pages the author explains how to apply the modern method of controlling conception. He has included in it a large number of ingenious colored charts of the different menstrual cycles showing the fertile and sterile periods of each. Accompanying these

is "The Calendar Wheel" for determining the fertile and sterile dates in each type of menstrual cycle.

The text is a small part of the book and is written for the layman, in a very readable and easily understood style. He discusses "Marriage and Child Bearing," "The Egg and the Male Cell," "Why Menstruation," "Motherhood," and "How to Apply the Modern Method."

It should prove a valuable book for those who wish to try this modern method. The author evidently believes in it, and quotes interesting data from the literature.

JOHN F. DENTON, M.D.

Physical Diagnosis. By Richard C. Cabot, M.D. Eleventh edition. 540 pages with 318 illustrations. William Wood & Co., Baltimore, 1934. Price \$5.00. The author presents in a very readable form an account of the diagnostic methods used by competent practitioners. The work is well illustrated and has been revised to include a newly written chapter on Electrocardiogram and much new material on Heart Disease, Tuberculosis, and other subjects. Sections concerned with laboratory data have been wisely omitted from this edition. The various subjects are clearly and concisely treated and a description of tests, which the author believes to be useless, has been omitted. This standard work should be particularly attractive to students and can easily be made a valuable part of the library of any practicing physician.

J. M. MONFORT, M.D.

The Anatomy of the Leg and Foot. By Philippa N. Vaus. Publishers: William Wood & Co., Baltimore, Maryland. Price \$2.00. This little book holds no special interest for the physician. It is written as a text book for students and practitioners of Chiropody and condenses the anatomy of the foot and leg. It is well written and very well illustrated with drawings by the author.

RANDOLPH SMITH, M.D.

Principles of Genetics and Eugenics. By Nathan Fasten, Ph.D. Publishers: Ginn and Company, 15 Ashburton Place, Boston, Mass.

A book of about four hundred pages, price \$2.80, which lives up to the author's claim of being suitable both to the elementary student and to those making a specialty of this field of work. It should be of general interest to all, since, as brought out in the text, where 70 to 80 per cent of our national taxes pay for war and \$5,000,000,000 a year is the cost of our socially inadequate population, only one-third of this latter amount is spent in our public school systems. Our annual crime bill is \$16,000,000,000 against \$5,000,000,000 child welfare expenditures. The welfare expenditure touches 50,000,000 young whereas crime cost touches less than 1,000,000. "Every time we 'grow' a criminal he costs us as much as the welfare influence in the lives of 160 normal boys."

It is stressed that the treatment of pauperism, idiocy, insanity, and criminality, has been largely curative

rather than preventive, and the failure of such plan is shown by the figures—nearly 18,000,000 defectives now in the United States, divided into 6,000,000 legally insane enough for state institutions, 6,000,000 milder forms of insanity, and 6,000,000 mentally deficient. These astounding figures quoted early in the book make the later chapters of particular interest, since even the most ignorant of us know that heredity plays a vital part in the production of these individuals, and a thorough understanding of the laws of genetics and eugenics is necessary for intelligent social welfare work and legislation.

This book throughout gives both sides of all arguments and all theories bearing on unproven points, and is apparently entirely unbiased in its treatment of such questions.

TRIMBLE JOHNSON, M.D.

A Marriage Manual. By Hannah M. Stone, M.D., and Abraham Stone, M.D. 334 pages, 8 illustrations. New York. Simon and Schuster, 1935. Cloth, \$2.50.

The authors record their experiences in discussing with men and women various problems of sex and marriage at the Marriage Consultation Centers of the Labor Temple and Community Church, and at the Birth Control Clinical Research Bureau of New York. The data is presented in a clear, simple and non-technical manner and is scientifically correct throughout. An excellent description is given of the anatomy and physiology of the reproductive organs, and after a consideration of the "Fitness for Marriage" there is a discussion of contraception, fertility and sterility. The chapter on "The Art of Marriage" covers in detail many important problems. The question of Sexual Adjustments and Maladjustments includes the most common causes with methods of prevention, and that of Health in Marriage covers the ideal time for the first and subsequent pregnancies, the size of the family as well as the hygiene of sexual relations.

This book should be one of real value for young couples seeking pre-marital advice and to physicians who are called upon to offer suggestions and information concerning these problems. It is written in the dialogue style as if a young couple about to be married was consulting a physician. A number of excellent references are given and the various subjects discussed recorded in a complete index.

JAS. N. BRAUNER, JR., M.D.

Clinical Diagnosis by Laboratory Methods, by James Campbell Todd, Ph.B., M.D., Late Professor of Clinical Pathology, University of Colorado, School of Medicine and Arthur Hawley Sanford, A.M., M.D., Professor of Clinical Pathology, University of Minnesota (The Mayo Foundation) Head of Section of Clinical Laboratories, Mayo Clinic, Eighth Edition, Thoroughly Revised—Philadelphia and London—W. B. Saunders Company, 1935 Cloth, \$6.00.

There are twelve chapters and appendix in the new revised edition. The subject of clinical laboratory methods is thoroughly covered in a very clear concise

way. The book is most excellent for any general laboratory work.

There have been a number of changes in the chapter on blood. Many new methods have been added. Special blood pathology has been dealt with more fully than in previous editions. The chapter on clinical chemistry has added much new material. The discussion on bile pigment is very good.

In other chapters there are many new tests that will prove helpful to those doing clinical laboratory work. There are twenty-five new illustrations.

A. J. AYERŠ, M.D.

Review of Clinical Parasitology and Tropical Medicine. By Doctors Damaso and Carlos T. De Rivas. Lee and Febiger, Washington Square, Philadelphia, Penn. 1935. Price \$5.00. This book of three hundred and sixty-seven pages containing one hundred and forty-four engravings and one colored plate is divided into six parts covering all important phases of the common tropical infections. One part deals with tropical diseases due to bacteria, another relates to those of undetermined etiology and the last division deals entirely with climatic diseases and animal poisons, e.g., heat exhaustion and hyperpyrexia, poisonous snakes, scorpions, spiders and fish.

Readers will find the chapters on amebiasis of great interest. The newer forms of treatment are described and interesting case histories are given. A complete summary of the clinical features of amebic abscess is described.

The chapter on nematodes is descriptive of the symptoms and lesions caused by various intestinal worms. The illustrations are very instructive and well executed. The latest therapeutic chemicals and their doses are given in detail.

The writers discuss malarial parasites, their lesions, complications and sequela, particularly the lesions of the brain in treated cases of paresis. The therapeutic values of quinine, plasmochin, and atabrine are considered.

Physicians now have access to another important book. Perhaps no authors are better equipped to write of these problems than the Doctors De Rivas, both of whom are widely experienced in tropical medicine.

J. C. NORRIS, M.D.

NEWS ITEMS

The Carroll County Medical Society met at Carrollton on September 12th. Names of Atlanta doctors who attended the meeting follow: Dr. Wm. H. Kiser, Jr., Dr. Hulett H. Askew, Dr. Jas. E. Paullin, President of the Association, and Dr. Edgar D. Shanks, Secretary-Treasurer.

The Ninth District Medical Society met at Gainesville on September 18th. Titles of scientific papers on the program were as follows: *Spontaneous Subarachnoid Hemorrhage, Resulting from Hypertension*, Dr. E. W. Grove, Gainesville; *Immunization*, Dr. Brad-

ley B. Davis, Gainesville; *Acne Vulgaris*, Dr. Cosby Swanson, Atlanta; Address by Dr. Jas. E. Paullin, Atlanta, President of the Association. Those from Atlanta who attended the meeting and spoke were as follow: Dr. T. C. Davison, Dr. Mason Lowance, Dr. Wm. Willis Anderson, Dr. Edgar D. Shanks, Dr. Theodore Toepel, Dr. Cosby Swanson, and Mrs. J. Bonar White, Ex-President, Woman's Auxiliary.

The Ware County Medical Society met at Waycross on September 4th. Dr. W. L. Pomeroy, Waycross, read a paper entitled *Surgical Diseases of the Thyroid Gland*. Dr. A. W. Deloach and Dr. C. M. Stephens entertained the members at dinner at the Hotel Ware.

Dr. T. F. Abercrombie, Atlanta, Director of Public Health for Georgia, addressed the members of the DeKalb County League of Women Voters on September 6th.

Dr. T. W. Jackson, Manchester, entertained the members of the Meriwether County Medical Society at dinner at the Hotel Manchester on September 2nd. Dr. Marvin F. Haygood, Hamilton, formerly with the State Tuberculosis Sanatorium, was the principal speaker.

The doctors and county commissioners of Stephens County have agreed on a plan to build and operate the proposed "Stephens County Hospital." The institution is to be non-profitable and to be operated without expense to Stephens county.

The Fulton County Medical Society met at the Academy of Medicine, Atlanta, September 19, 1935. Dr. L. Minor Blackford gave a case report, *Biventricular Aorta*; Dr. H. R. Donaldson made a clinical talk, *Some Safety Measures in Gallbladder Surgery*; Dr. R. A. Bartholomew and Dr. R. R. Kracke, paper entitled, *The Role of the Hypercholesteremia of Pregnancy in Causing Vascular Changes in the Placenta, Predisposing to Infarction and Toxemia*. The discussion was led by Dr. J. R. McCord, Dr. C. B. Upshaw and Dr. Geo. F. Klugh.

The Seventh District Medical Society met at Chickamauga on September 25th. Titles on the scientific program were as follows: *The Hygiene and Management of Pregnancy*, Dr. H. L. Sams, Dalton; discussion led by Dr. J. S. Alsobrook, Rossville, and Dr. S. M. Howell, Cartersville. *Some Medical Accomplishments of Great Value*, Dr. J. H. Hammond, La Fayette; discussion led by Dr. E. M. Bailey, Acworth, and Dr. Z. V. Johnston, Calhoun. *The Common Cold*, Dr. H. D. Long, Chattanooga, Tenn., discussion led by Dr. R. C. Maddox, Rome, and Dr. J. C. Rollins, Dalton. *Gonorrhea in the Male*, Dr. John M. McGehee, Cedartown; discussion led by Dr. S. B. Kitchens, LaFayette, and Dr. Ralph N. Johnson, Rome. *Passive Vascular Exercises*, Dr. J. H. Mull, Rome; discussion led by Dr. T. H. Moss, Rome,

and Dr. N. A. Funderburk, Trion. Doctors from Atlanta who attended the meeting were: Dr. Jas. E. Paullin, President of the Association, Dr. W. W. Anderson, Dr. D. Henry Poer, Dr. Theodore Toepel, Dr. Hal M. Davison, Dr. Ed. Fincher and Dr. Edgar D. Shanks, Secretary-Treasurer of the Association.

Dr. R. K. Brown, Athens, graduate of the University of Georgia School of Medicine, 1931, served as intern at the Piedmont Hospital, Atlanta, and the University Hospital, Augusta; will be associated in the practice of medicine and surgery with Dr. H. W. Birdsong, Athens.

Dr. Marcus L. Webb, formerly of Mayodan, N. C., graduate of Emory University School of Medicine, Atlanta, has moved to Tifton and opened offices in the Bowen Building for the practice of medicine. He served in the medical corps of the United States Army during the World War. Dr. Webb was reared in Berrien county, Georgia.

Dr. W. H. Clark, Dr. Enoch Callaway, et al, LaGrange, were guests of Dr. B. H. Minchew, Waycross. President-Elect of the Association, during the week-end, September 7-8. They were in Waycross to inspect the Ware County Hospital. The city of LaGrange made application to the Works Progress Administration for \$200,000 to build and equip a hospital.

Dr. John W. Brittingham, Augusta, has just returned from Baltimore where he spent several weeks at Johns Hopkins University School of Medicine taking post-graduate work.

Dr. Newdigate M. Owensby, Atlanta, by invitation, spoke at a meeting of the International Claim Association held at White Sulphur Springs, West Virginia, September 10, on *Nervous Diseases and Their Relation to Insurance*.

Dr. W. H. Lucas, formerly of Stillmore, has moved to Cedartown.

Dr. F. M. Atkins announces the removal of his office to 478 Peachtree Street, N.E., Atlanta.

The Ware County Medical Society entertained the druggists of Ware county at Hotel Ware, Waycross, on September 2nd. The purpose of the meeting was to make some agreement whereby the sale of barbiturates may be restricted.

Dr. D. L. Seckinger, Atlanta, Epidemiologist, Georgia Department of Public Health, has been appointed Assistant Health Officer for the District of Columbia.

Dr. W. T. Edmondson, Augusta, has been appointed to the State Board of Health from the Pharmaceutical Association for the State of Georgia at Large, for a term of six years ending September 1, 1941.

Dr. H. L. Reynolds announces the removal of his office to the Doctors Building, 478 Peachtree Street, N.E., Atlanta.

Dr. and Mrs. J. B. Jackson, Clarksville, entertained the members of the Habersham County Medical Society and Auxiliary at their home on September 12th.

Dr. C. C. Aven, Atlanta, and Dr. H. C. Schenck, with the State Board of Health, Atlanta, attended the Southern Tuberculosis Conference at Houston, Texas, September 16, 17, 18.

Dr. C. F. Holton and Dr. H. F. Sharpley have opened offices in the DeRenne Apartments, Savannah.

The Thomas County Medical Society met at the John D. Archbold Memorial Hospital, Thomasville, September 18th. Dr. Arthur D. Little read a paper entitled, *Hysterectomies in the John D. Archbold Memorial Hospital*; Dr. C. H. Ferguson, paper, *Therapeutic Use of Muscle Tissue Extract*.

The Fulton County Medical Society met at the Academy of Medicine, Atlanta, October 3rd. The scientific program consisted of a Symposium on Tuberculosis, as follows: Dr. George F. Klugh, *Policies and Purposes of the Atlanta Tuberculosis Association*; Dr. A. Worth Hobby, *Recent Developments in Tuberculosis*; Dr. L. Minor Blackford, *Tuberculosis in Adolescents*; Dr. J. C. Massee and Dr. Ben Hill Clifton, *Collapse and Therapy*. Dr. Champneys H. Holmes led the discussion. Dr. Paul P. McCain, Sanatorium, N. C., spoke on *Early Diagnosis of Tuberculosis with the Use of Tuberculin and X-Ray*.

Dr. Grady Clay, Atlanta, was elected a member of the Council of the American Academy of Ophthalmology and Otolaryngology at a meeting in Cincinnati on September 20th. The next meeting will be held in New York City.

The Randolph County Medical Society met at the Patterson Hospital, Cuthbert, on October 3rd. Dr. C. K. Sharp, Arlington, spoke on, "Some of My Mistakes in the Practice of Medicine."

The regular staff meeting of Grady Hospital, Atlanta, was held on October 8th. Dr. Harry Lange reported a case of *Gangrene of Foot Following Fracture*; Dr. Carl Garver reported on the *Study of Post-Operative Infections in the Colored Unit*.

The Eighth District Medical Society met at the Hotel Daniel Ashley, Valdosta, October 8th. Title papers on the program were: *Certain Problems of the Medical Association of Georgia*, Dr. James E. Paullin, Atlanta, President of the Association; *Indications for Lung Collapse Measures in Tuberculosis with Special Reference to Technic and Management in Artificial*

Pneumothorax, Dr. H. C. Schenck, Atlanta; *Eclampsia*, Dr. J. F. Mixson, Jr., Valdosta; *Contraceptive Evils*, Dr. R. L. Johnson, Waycross; *Heart Disease*, Dr. Edgar D. Shanks, Atlanta, Secretary-Treasurer of the Association; address by Dr. Lawson Thornton, Atlanta. Members and visitors were entertained at dinner.

The Second District Medical Society met at Thomasville on October 11th. The scientific program consisted of titles for papers as follows: *The Surgical Management of the Toxic Thyroid Patient—Illustrated with Moving Pictures*, Dr. D. Henry Poer, Atlanta; *Syphilis—Its Treatment Among the Low Income Class*, Dr. J. R. McMichael, Quitman; *Pediatrics*, Dr. W. L. Wilkinson, Bainbridge; *Malignant Tumors of the Bone*, Dr. Everett L. Bishop, Atlanta; *Tobacco Amblyopia*, Dr. H. M. Moore, Thomasville; *Surgery in the Mentally Ill*, Dr. James H. Pound, Chattahoochee, Fla. The members and guests were entertained at a barbecue and dance.

The Georgia Medical Society, Savannah, met on October 8th. Dr. R. L. Oliver read a paper entitled *Metaplasia in the Breast*; discussion was led by Dr. Lee Howard and Dr. Wm. H. Myers. Dr. Julian F. Chisholm, Jr., made a case report, *Tumor of the Optic Nerve with Unusual X-Ray Findings*.

Dr. H. W. Birdsong announces the association of Dr. R. K. Brown in the practice of medicine and surgery. Offices at 314-17 Southern Mutual Building.

The Burke-Screven Jenkins Medical Society met at the Wayside Hotel, Millen, October 3rd. Dr. W. W. Hillis, Sardis, reported *Five Cases of Proven Diphtheria in Children, Immunized with Toxoid and Had Negative Schick Test; Except, Two Doubtful Negatives*. Dr. C. Thompsos, Millen, reported a case of a *Five Year Old Child Bitten by Large Rattlesnake on Back of Hand*. Treatment consisted of a tourniquet applied to arm, carried to physician two and one-half hours later, multiple deep punctures were made about the fang marks with prolonged suction and arm kept in dependent position. The child recovered promptly without other treatment although it must have received an enormous dose of the venom. Dr. Q. A. Mulkey, Millen, read a paper entitled *The Treatment of Injuries to the Eye*; Dr. C. Thompson, Millen, *Fracture and Dislocation of the Shoulder Joint*; Dr. Senn reported a case of *Tularemia Treated by Injections of Bismuth Formiciodide Every Two Days with Prompt Recovery*. Dutch dinner was served.

The meeting of the staff of the Crawford W. Long Memorial Hospital, Atlanta, was held on October 10th. The program consisted of discussions of mortalities, clinical talks by chairmen of original committees and memorial services.

The monthly meeting of the staff of Wesley Memorial Hospital, Emory University, was held on Oc-

tober 11th. Cases were reported as follows: *Carcinoma of Bladder, Carcinoma of Prostate, Cellulitis of Right Hand and Arm, Arteriosclerotic Heart Disease, Senile Arteriosclerotic Nephrosclerosis, Uremia, Benign Hypertrophy of Prostate, Broncho Pneumonia, Fractured Hip and Ankle, Fractured Pelvis with Ruptured Bladder, Ulcerative Colitis of Bacterial Origin, Pellagra with Central Nervous System Involvement and Premature Mononstrosity.*

A retiring physician offers an excellent opportunity to a young single doctor. If interested, write the Secretary-Treasurer of the Association.

The Fulton County Medical Society met at the Academy of Medicine, Atlanta, October 11th. Dr. George W. Crile, Cleveland, Ohio, delivered the first lecture given under the Floyd Wilcox McRae Memorial Lectureship, entitled *The Genesis and Surgical Treatment of Malignant Hypertension*. Dr. Crile is Chairman of the Board of Regents of the American College of Surgeons.

OBITUARY

Dr. George P. Brice, Cumming; member; Georgia College of Eclectic Medicine and Surgery, Atlanta, 1884; aged 75; died at his home after an illness of short duration on September 2, 1935. He was born in Dawson county, moved with his parents to Forsyth county when only a boy. Dr. Brice was a prominent physician and had practiced medicine in Forsyth county for 51 years. He was past-master of the Cumming Masonic lodge and a member of the Baptist church. Surviving him are three sisters: Mrs. Margaret Jay and Mrs. Lizzie Martin, both of Gainesville; Mrs. Currie Montgomery, Cumming; four brothers, Dr. Joe Brice and Rich Brice of Forsyth county; Dr. Sam Brice of Los Angeles, Calif.; and John Brice of Nebraska. Rev. H. T. Stone conducted the funeral services from the residence. Burial was in Alta Vista cemetery.

Dr. Abram B. Jones, Tyrone; member; Atlanta College of Medicine, Atlanta, 1907; aged 59; died of heart disease at his home on September 6, 1935. He was a native of Elbert county but had lived in Fayette county for more than 30 years. Dr. Jones took an active interest in business, civic and educational affairs. He was mayor of Tyrone and a member of the Board of Education and the Masonic fraternity. Surviving him are his widow, one daughter, Mrs. H. G. Farr, Tyrone; two brothers, J. B. Jones, College Park, and T. S. Jones, Elberton. Rev. Toomb McGahee conducted the funeral services from the Baptist church. Interment was in the Tyrone cemetery.

Dr. Thomas R. Whitley, Douglasville; Emory University School of Medicine, Emory University, 1776; aged 81; died at his home on September 3, 1935. He was born and reared in Douglasville. Served several terms as mayor of Douglasville and was a member

of the General Assembly of Georgia for twenty years. Dr. Whitley actively sponsored the measure to establish the State Tuberculosis Sanatorium at Alto. Surviving him are four daughters; Mrs. Helen W. Turner and Mrs. B. F. Perry, both of Douglasville; Mrs. Frances Moore, Atlanta; and Mrs. T. C. Beck, Fort Benjamin Harrison. Funeral services were conducted from the residence. Burial was in the city cemetery.

Dr. Bruce P. Powers, Guyton; University of Georgia School of Medicine, Augusta, 1898; aged 65; died at his home on September 8, 1935. He was a native of Effingham county. Dr. Powers began the practice of medicine in Guyton, associated with Dr. Charles A. Greer. During the World War, he was examining physician for Effingham county for the men drafted for service in the U. S. Army. While Dr. Powers did an extensive practice, he found time to serve his home town, county and church. He was on the Board of Trustees of the Guyton school, deacon in the New Providence Baptist church; member of the Masonic lodge and the Baptist church. Surviving him are his widow, one daughter, Mrs. Curry S. Robey, Savannah; two sons, Bruce and Leander Powers of Guyton. Rev. Robert Bale conducted the funeral services from the New Providence Baptist church. Interment was in Guyton cemetery.

Dr. John C. White, Atlanta; member; Southern Medical College, Atlanta, 1889; aged 76; died at his home on September 7, 1935. He was a native of Boone county, Kentucky. Dr. White moved to Atlanta thirty-two years ago and endeared himself to a wide circle of friends. He was active in the civic, social and religious activities of the city. Dr. White represented the Seventh Ward in the city council at one time, served two years in the legislature, and was active in the organization of the Park Street Methodist church. Dr. White was liberal in making gifts to charitable and religious organizations. In addition to his post-graduate work in this country, he received post-graduate instruction in Paris, France. He was a member of the F. & A. M. and Methodist church. Surviving him are his widow, two brothers, S. E. White, Paducah, Ky., and Oscar T. White, Birmingham, Ala.; one sister, Mrs. F. H. Kendall, Woodland, Washington. Funeral services were conducted by Rev. Fred Glisson and Dr. W. H. Faust from the Park Street Methodist church. Interment was in West View cemetery.

Bernard Mortimer and Gertrude Beard, Chicago (*Journal A. M. A.*, Aug. 17, 1935), tested nine new short wave diathermy machines for their ability to heat the tissues of the human thigh. A conventional spark-gap diathermy machine was used for comparison. To date fourteen short wave diathermy machines with wavelengths ranging from 6 to 25 meters have been tested for their ability to heat the tissues of the human thigh. From their results there appears to be no advantage of any one wavelength over another for heating purposes.

Medical Association of Georgia

Health Examination Record

Name.....	Address.....	Date.....	19.....
1 Age.....	Looks.....	Height.....	Weight..... Theoretical Normal.....
2 Chest Expansion.....	Abdominal Expansion.....		
3 Posture.....	Nutrition.....	Appearance.....	Skin.....
4 Superficial Glands.....	Male Genitalia.....	Hernia.....	Hemorrhoids.....
5 Osseous Deformities: Arms.....	Legs.....	Feet.....	Spine..... Chest.....
6 Lungs.....	Heart.....		Abdomen.....
7 Ears.....	Eyes.....	Nose.....	Throat..... Teeth..... Tonsils.....
8 Temperature.....	Pulse.....	Respiration.....	Blood Pressure.....
9 Ladies: Menstruation.....	Uterine Disease.....		
10 Operations.....			
11 Disease.....			
12 Protection against disease: Smallpox.....	Typhoid.....	Diphtheria.....	
13 Urine: Sp. G.....	Albumen.....	Sugar.....	Indican..... Acid.....
14 Feces: Parasites.....			
15 Blood: Wassermann.....			
16 Habits of Eating: Meats.....	Green Vegetables.....	Fruits.....	Sugars..... Starches.....
17 Habits of Drinking: Water.....	Coffee.....	Tea.....	Alcohol..... Carbonated Waters.....
18 Home Sanitation: Living Quarters.....	Sleeping Quarters.....	Sewage.....	Water.....
19 Use of Tobacco.....			

Findings:

Grade.....

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Suggestions:

1
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M. D.

Key: Letter A—100—Excellent.
 Letter B— 75—Slight Defect.
 Letter C— 50—Needs Attention.

To arrive at the grade, add marginal figures and divide by their number. This will give the grade of the person examined. Keep the original and give the examined a copy with information which is best for him to know and to follow.

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METHODS AND RESULTS IN THE TREATMENT OF DIABETIC CHILDREN*

HAROLD BOWCOCK, M.D.
Atlanta

The status of the diabetic child has changed completely during the past fifteen years from an attitude of despair of child, parents and doctor to an attitude of interest, encouragement and hope for each.

During the year 1922, I stood at the side of a noted British physician in a London hospital and heard him advise the mother of a child in whom diabetes had just appeared, that she might choose to leave the child for treatment or take the child home, since in either circumstance an unfavorable outcome might be expected in less than a year. Only a few months later I saw the beginning of insulin treatment in this country at Dr. Joslin's clinic in Boston.

Prior to the use of insulin, the average life of the diabetic child was two years and the majority of children succumbed within a year. Today, there is no need for the diabetic child to die of diabetes.

During the past thirteen years, the diabetic child has taught the doctor much about diabetes. Priscilla White, one of Dr. Joslin's associates has been successful in presenting the accumulated world knowledge of this subject in her monograph, entitled: "Diabetes in Childhood and Adolescence." Any generalizations which follow, are quoted largely from this valuable book.

Diabetes is rare in childhood when compared to the high incidence of the condition in adult life. The chief predisposing factor

of childhood diabetes is heredity. One sign of predisposition must be intimately related to the growth factor as it has been discovered that about 85 per cent of diabetic children are taller than the average of their age groups at the time of onset.

The incidence of childhood diabetes fluctuates in crests so that the greatest number of cases by year appears at 3, 5, 8 and 12 years of age corresponding to the periods of the greatest spurts in child growth. In the younger ages, more cases occur in boys than in girls and in the later ages of childhood more cases occur in girls than in boys, but the average incidence is equal in the two sexes.

The rapidity of onset of the symptoms of childhood diabetes is described as sudden or rapid in 21 per cent of cases while the onset in adults is sudden or rapid in only 4.6 per cent of cases.

Glycosuria in childhood demands differentiation by blood sugar studies between diabetes and benign glycosuria as an occasional young child shows typical benign alimentary or renal glycosuria.

The dietary treatment of childhood diabetes has become progressively better during the past 15 years. A chart, showing the contrasts and the advantages of successive changes in method, is on display in the Scientific Exhibit of this meeting.

Fifteen years ago, during the Allen era of undernutrition management, the diabetic child was obliged to take a diet low in calories, supplementing foods of low nutritional value with many articles of no food value such as strained meat broth, thrice cooked vegetables, bran and cracked cocoa in order to satisfy the cravings of hunger. Even thus, fast days and green vegetable days had to be resorted to at frequent intervals. There was

*Read before the Medical Association of Georgia, Atlanta, May 8, 1935.

retardation of growth, development and activity and the picture usually ended in extreme inanition and coma.

During 1920 Newburgh and Marsh along with Petren showed the usefulness of the high fat diet. This diet was very low in carbohydrate and protein and high in fat. The fat intake exceeded the amount which is considered safe in the relationship between available fatty acids and available glucose of the diet, but yielded more calories than previous diet methods. Diabetic children were able to grow a little, gain weight and increase their activity with this diet but were still required to eat many things of little or no food value in order to fill their stomachs. The incidence of coma remained high because by virtue of the high fat quota, any disturbance of metabolism was followed quickly by a serious acidosis. How much hope the prolonged use of this diet with its low protein and high fat intake might have offered the diabetic child is unknown because the advent of insulin permitted the use of more normal methods.

During the early part of August, 1922, the first injections ofletin or insulin were given in this country in one and two unit doses by Dr. Joslin. Strikingly beneficial results were recognized at once, and with earlier experience as the teacher, the modern type of diabetic diet has been developed, made possible by insulin. It is a striking and interesting fact that the modern diet on which the diabetic child fares best is different in no essential respect from the diet of a normal child except in the absence of a few foods of high carbohydrate value and sweets. The value of this normal diet has been proved clinically by critical observations of the diabetic child over a period of thirteen years. In contrast to an average expectancy for the diabetic child of two years of life during the preinsulin era, we see now, the great majority of children in whom diabetes has appeared since 1922, still alive and leading the lives of normal children. Those fatalities attributable to the diabetic state which have occurred have been usually the result of ignorance or neglect.

The modern diet for the diabetic child furnishes sufficient energy in calories to per-

mit the child to grow, develop, mature and enjoy normal activity; it furnishes sufficient bulk to satisfy hunger; it is palatable, attractive and easily varied by substitutions; it furnishes sufficient protein for tissue repair and normal growth; it furnishes sufficient vitamins and minerals for growth, development and dentition; it prevents the big liver and protuberant belly of the diabetic child. An equally important benefit, determined by statistical study, reveals itself in a decreased incidence of abnormal blood fat values and a decreased incidence of the arteriosclerotic complications formerly seen often in children.

Normal nutrition and intelligent management have permitted the diabetic to face the hazards of childhood diseases without great fear. Respiratory infections, measles, mumps, whooping cough and chickenpox no longer take the toll of the preinsulin area. A little additional care for a few days gives the diabetic the advantage of immunologic procedures which were formerly dreaded or omitted; namely vaccination against smallpox and injections of typhoid vaccine, diphtheria, toxoid and whooping cough vaccine. Because diseased tonsils decrease tolerance and hinder development, their removal is imperative and can be done with safety, but only under careful medical control of the diabetes.

The following few cases of childhood diabetes are described briefly to illustrate the foregoing assertions.

Report of Cases

The youngest child whom I have treated was a male infant 16 months of age in whom diabetes had developed one month earlier. He was seen first during May 1924 with fecal impactions, marked acidosis and drowsiness. His height was 32 7-8 inches which was one inch taller than his age average. He later became the care of another doctor but I understand that with eleven years of insulin treatment he is in excellent physical condition: he is now 12 years old, his height is 55½ inches and his naked weight is 64 pounds, both of which are less than average for his age. His dentition is normal with no cavities. His diet contains 122 grams of carbohydrate and his insulin dosage is 35 units in three doses.

My oldest diabetic child in terms of insulin treatment showed his first symptoms of diabetes at the age of 11 during March 1917. He received excellent treatment by the methods of undernutrition but at the age of 16 during 1922, he weighed only 71 pounds and during August 1922 when in precarious

condition he was started on insulin by Dr. Banting at Toronto. Since starting insulin he has lead a very active and successful college and business career; at the age of 29 his development and appearance are normal and he weighs 150 pounds. His diet is about 140 grams of carbohydrate daily with 60 units of insulin in three doses.

The following four children have consented to come here so that you may see what normal looking children they are while we mention their facts of interest.

Linda was 3 1-3 years old when first seen during October 1931 at the onset of diabetes. Her height was 38 inches, $\frac{1}{2}$ inch taller than her average, and her weight was $32\frac{3}{4}$ pounds, $\frac{3}{4}$ of a pound heavier than her average. Her first diet was carbohydrate 70 Gm., protein 36 Gm., and fat 76 Gm., with 22 units of insulin in three doses. Her present age is 6 2-3 years, her weight is 46 pounds and her height 43 inches, both about average for her age. Her diet is carbohydrate 104 Gm., protein 55 Gm., fat 72 Gm., yielding 1284 calories or 71 cal. per kilo; the protein is 3 Gm. per kilo. She takes 16 units of insulin daily in two doses. She has had a number of respiratory infections and some sinus involvement which yielded to treatment, she has been vaccinated against smallpox and has received Sauer's whooping cough immunizing vaccine; she has just recovered from chickenpox. She has had two appearances of carotiniemia, the skin of the body but particularly the palms of the hands turning yellow but without discoloration of sclera or urine. Her dentition is normal. She is in the first grade at school.

Hugh's onset was gradual during October, 1928 at the age of 3 years, 10 months, and he was first seen by me during March, 1929 at the age of four. His height at this time was 40 inches which is average, and his weight was $31\frac{1}{2}$ pounds which was several pounds below average. His first diet was carbohydrate 85 Gm., protein 63 Gm., and fat 81 Gm., with 15 units of insulin in two doses. At the age of 10 years and 5 months his height is $50\frac{3}{4}$ inches which is about average for his age and his weight of $59\frac{3}{4}$ pounds corresponds to his height; his diet contains 127 grams of carbohydrate and he takes 26 units of insulin daily, 18 units after breakfast and 8 units before supper. Since the onset of diabetes, Hugh has had a tonsillectomy, numerous respiratory infections, pneumonia, whooping cough, during which he received pertussis vaccine, measles treated with parent's serum, chickenpox and mumps. He has not been vaccinated against smallpox but that will be done this summer. He has had some severe insulin reactions with unconsciousness and twitching, requiring intravenous administration of 50 per cent glucose solution. His case is interesting in that his father has a benign glycosuria. Hugh's condition is quite unusual in that many fasting blood sugars have been in the neighborhood of 50 to 60 milligrams per cent even when insulin is omitted. Without insulin, he shows diabetic hyperglycemia after food and glucose. His renal threshold after food is between 100

MODERN DIABETIC DIET

For a child weighing 55 pounds, 25 kilograms, contrasted with diets of earlier periods of treatment

ARTICLES OF FOOD ↓	UPPER NUTRITION TYPE DIET BEFORE 1920	HYPOGLYCEMIC & BANTING HIGH FAT DIET 1920-30	EARLY INSULIN PERIOD 1922	MODERN INSULIN DIET
BREAKFAST				
Orange	50 gm. = 1½ oz.	25 gm. = ¾ oz.	50 gm. = 1½ oz.	100 gm. = 3½ oz.
Oatmeal (all-in)	15 gm. = ½ oz.	—	15 gm. = ½ oz.	30 gm. = 1 oz.
Egg	One	One	One	One
Crisp Bacon	30 gm. = 1 oz.	15 gm. = ½ oz.	15 gm. = ½ oz.	15 gm. = 2 strips
Cream	60 gm. = 2 oz.	45 gm. = 1½ oz.	60 gm. = 2 oz.	60 gm. = 2 oz.
Milk	—	—	—	240 gm. = 1 glass
Butter	15 gm. = ½ oz.	20 gm. = ¾ oz.	15 gm. = ½ oz.	5 gm. = ¼ oz.
Bran Wafers*	+	+	+	—
Cracked Cocoa	+	+	+	—
DINNER				
5% Vegetables	150 gm. = 5 oz.	180 gm. = 6 oz.	120 gm. = 4 oz.	As desired
10% Vegetables	90 gm. = 3 oz.	—	120 gm. = 4 oz.	As desired
Cooked Meat	45 gm. = 1½ oz.	60 gm. = 2 oz.	45 gm. = 1½ oz.	60 gm. = 2 oz.
Bread	—	—	—	30 gm. = 1 slice
Butter	15 gm. = ½ oz.	20 gm. = ¾ oz.	15 gm. = ½ oz.	5 gm. = 1 square
Milk	120 gm. = 4 oz.	—	120 gm. = 4 oz.	240 gm. = 1 glass
Orange	75 gm. = 2½ oz.	25 gm. = ¾ oz.	130 gm. = 4½ oz.	100 gm. = 3½ oz.
Clear Broth*	+	+	+	If desired
Bran Wafers*	+	+	+	—
Olive Oil	+	15 gm. = ½ oz.	—	—
SUPPER				
5% Vegetables	150 gm. = 5 oz.	180 gm. = 6 oz.	120 gm. = 4 oz.	As desired
10% Vegetables	90 gm. = 3 oz.	—	120 gm. = 4 oz.	As desired
Cooked Meat, lean	45 gm. = 1½ oz.	Bacon, 2 strips	45 gm. = 1½ oz.	—
Bread	—	—	—	30 gm. = 1 slice
Butter	15 gm. = ½ oz.	20 gm. = ¾ oz.	15 gm. = ½ oz.	5 gm. = 1 square
Milk	—	—	120 gm. = 4 oz.	240 gm. = 1 glass
Orange	75 gm. = 2½ oz.	—	90 gm. = 3 oz.	100 gm. = 3½ oz.
Clear Broth*	+	+	+	If desired
Bran Wafers*	+	+	+	—
Gelatin	—	One bowl	—	—
Olive Oil	—	15 gm. = ½ oz.	—	—
Cream	—	45 gm. = 1½ oz.	60 gm. = 2 oz.	—
TOTALS PER 24 HOURS	Carbohydrate = 60 Protein = 52 gm. Fat = 90 gm. Calories = 1258 Cal. per Kg. = 50 Prot. per Kg. = 2.0	Carb. = 20 gm. Prot. = 40 gm. Fat = 129 gm. Cal. = 1401 Cal. per Kg. = 56 Prot. per Kg. = 1.6	Carb. = 77 gm. Prot. = 55 gm. Fat = 99 gm. Cal. = 1419 Cal. per Kg. = 57 Prot. per Kg. = 2.2	Carb. = 133 gm. Prot. = 68 gm. Fat = 74 gm. Cal. = 1470 Cal. per Kg. = 59 Prot. per Kg. = 2.7 gm.
* ARTICLES WITHOUT FOOD VALUE	Green Vegetable days; and fast days decreased average caloric intake. Too much ban is a disadvantage.	High fat intake becomes distasteful and probably inhibits improve- ment in tolerance and favors de- velopment of Arteriosclerosis. Restricted variety	Better than earlier diet but not sufficient for complete development al possibilities - fat still too high.	Calory and protein intake adequate for growth and development - Substitutions for variety easy. Blood vessel com- plication lessened Represents normal diet without sweets.
COMMON SUBSTITUTIONS:				
One slice Bread = 6 oz. Orange = Bowl Oatmeal = One Banana = 3 oz. Irish Potato = 12 oz. Grape Fruit = 4 Large Saucers or 18 oz. 5% Vegetables = 2 Large Saucers or 9 oz. 10% Vegetables.				

and 153 milligrams per cent of blood sugar, but for glucose the threshold is about 220 milligrams per cent. Hugh has normal dentition and no cavities. He is in the fifth grade at school and is an excellent student.

Charlotte developed diabetes at the age of $4\frac{1}{2}$ years and about 8 months later she had severe measles with a marked decrease in tolerance. She has taken insulin since the onset of diabetes and on six occasions before coming to me she had severe insulin reactions with convulsions. Her weight and height at onset is not known. I saw Charlotte first during September, 1934 at the age

of $6\frac{1}{2}$ years, height 46 inches, weight $46\frac{1}{2}$ pounds. She was taking a diet of carbohydrate 98 Gm., protein 50 Gm., fat 74 Gm., with 26 units of insulin daily in 2 doses; all of her specimens gave red reactions for sugar on this routine. Her tonsils were badly diseased and these have been removed, and she has been vaccinated against smallpox. During the past seven months her height has increased $1\frac{1}{2}$ inches to $47\frac{1}{2}$ inches and her weight has increased $4\frac{1}{2}$ pounds to 51 pounds, giving her the height and weight of an 8-year-old child although she is only seven. Her diet is carbohydrate 117 Gm., protein 68 Gm., fat 91 Gm., for a total of 1559 calories or 67 calories per kilogram of body weight; the protein intake is 3 Gm. per kilogram. Insulin dosage is 28 and 8 units for a total of 36 units daily. Charlotte stayed out of school for tonsillectomy and vaccination and consequently is in the first grade. She has normal dentition. Her arms show areas of subcutaneous fatty atrophy which probably resulted from previous repeated injections of insulin in the same areas; these lesions are improving since the adoption of the plan of changing the area for each injection.

Patsy had a gradual onset of diabetes at the age of 5 years, 8 months. Her height and weight at onset are not known. She came to me during February, 1933 at the age of 6 years, 1 month, on a diet of carbohydrate 92 Gm., protein 55 Gm., fat 66 Gm., and 7 units of insulin in two doses. She weighed $42\frac{1}{2}$ pounds. She is now 8 years, $3\frac{1}{2}$ months of age. She weighs 55 pounds and her height is 51 inches, both of which correspond to the averages of a 9-year-old girl. Her diet is approximately carbohydrate 128 Gm., protein 69 Gm., fat 89 Gm., which yields 1589 calories or 64 calories per kilogram of body weight. The protein is 2.8 Gm. per kilogram. Patsy has had whooping cough, during which time she took pertussis vaccine, and several attacks of bronchitis. For over six months she has taken her own insulin injections using a one-inch needle and the Woodyatt technic. She is an excellent student and in the second grade at school. She has normal dentition. Her insulin dosage is 18 units in the morning and 9 units in the evening, for a total of 27 units daily.

Such happy and active children as these, are a tribute to the care and solicitude of their mothers. The home care of the diabetic child is no light burden because every little cold, sore throat or childhood disease or even irregularity in the normal habits of the bowels, upsets metabolic equilibrium, calling for changes in insulin dosage and increased watchfulness of the mother. For this reason the mothers must be carefully trained for their work. The doctor does and should play a secondary part in the lives of these children.

The condition of these children whom you have seen is representative of the group of

their ages and older. One recognizes immediately that although their development is normal, their original rapidity of growth has probably been retarded and that in time they may remain slightly smaller than their expectancy. Their stature will be such however, that they will never be classed as stunted. The experience with older diabetic patients teaches that these children will mature and that they will accomplish puberty at the normal or a slightly delayed date. The ability for reproduction will be greater in the boys than in the girls, but present in both. Since the diabetic child is gifted with greater than average intelligence, these children may expect gratifying intellectual development and success in life. The fulfillment of these predictions depends upon adherence to rational and cooperative management.

Discussion on Paper by Dr. Bowcock

DR. V. P. SYDENSTRICKER (Augusta): Fortunately, I have had the opportunity of seeing a good many diabetic children during several years of their development. When I went to Toronto in the second year of insulin the most wonderful of all the things they had to show was a group of well nourished, active, happy diabetic children. To one who was accustomed to seeing malnourished, apathetic and pathetic little specimens, it was one of the most heartening things that could be imagined.

I have very little to add to what Dr. Bowcock has already called to your attention. Symptoms in children may be atypical, loss of appetite may be an indication of diabetes as may be the sudden development of enuresis. Undue fatigability and obscure loss of weight are almost unnecessary to mention before a group of men who look after a great many more children than I ever see. It is always necessary of course to rule out a benign glycosuria. The micro-methods are of particular value in determining blood sugar curves in children and the method of Byrd (Dr. T. L. Byrd of Atlanta) is perhaps the best of these. One can use capillary blood and the multiple estimations can be made from ear punctures so that a test is not a day of torture for the little patient.

The optimum diet for a child is, of course, relatively more liberal than for an adult; usually it contains 15 per cent protein and 45 per cent each of carbohydrate and fat, varying these values as the individual case requires. The diet must be adequate both in calories and essential growth elements. I think the most common fault in diets prescribed for diabetic children is inadequate vitamin content.

It is well to put the child on as nearly a normal diet as possible. With insulin the diabetic child can eat

what every other child does, except candy and other concentrated sweets. On a normal diet he does not develop a sense of individualism or an inferiority complex, mental or physical. In the old days diabetic children were doomed to be weaklings. It was not possible to nourish them for good bony and muscular development but that is history; now we can keep them well, active and full of "pep." In addition the preventive inoculations that were taboo before insulin have lost their terror and the inescapable childhood diseases can be managed with a minimum of worry.

Most of these children have learned as Patsy has, to give themselves insulin and the majority have a keen interest in their diets; they can calculate their calories practically as well as their physicians or parents. They learn to watch for sugar in their urine and can usually predict glycosuria from headache or polyuria. I think the diabetic child is a better patient than the diabetic adult; he has more patience with his infirmity, he is more cooperative and is willing to spend more time in the understanding of his disease. Too, I think children acquire and evaluate information more readily than adults and it makes one wish to be a pediatrician to see the success you are attaining.

DR. HAROLD M. BOWCOCK (Atlanta): I wish to express my appreciation of Dr. Sydenstricker's discussion. I should state that I am not trying to fly a false flag; I do not have the pleasure of being a pediatrician, except so far as diabetes is concerned.

Dr. Sydenstricker's discussion supplemented points which I should like to have brought out, and still more might be said about the details developed for these children.

I should like to call your attention once more to a point that I tried to make in the two boys who look almost like twins. The one boy is seven, but is a big boy for seven; he does not have diabetes. His brother, who is a diabetic, is ten and a third years old, and is essentially normal as far as averages for that age go. He started off, as most diabetic children do, being large for his age. As time has gone on, he has fallen behind in growth rate. He continues to grow, but his seven-year-old brother, who does not have diabetes, has caught up with him, and I would not be surprised if in a few years the younger brother became the larger.

The Southern Medical Association will hold its twenty-ninth annual meeting in St. Louis, Missouri, November 19, 20, 21, 22, 1935.

Dr. Edgar G. Ballenger, Atlanta, is a member of the Council.

Dr. M. Hines Roberts, Atlanta, is Secretary of the Section on Pediatrics.

Dr. Edgar F. Fincher, Jr., Atlanta, is Chairman of the Section on Neurology and Psychiatry.

Dr. J. W. Palmer, Ailey, is Secretary of the Section on Railway Surgery.

Mrs. J. Bonar White, Atlanta, is President of the Woman's Auxiliary to the Southern Medical Association; Mrs. Eustace A. Allen, Atlanta, Corresponding Secretary.

MECHANISM AND TREATMENT OF NON-DIABETIC KETOSIS*

RUSKIN KING, M.D.

Savannah

There are many manifestations of deranged metabolism peculiar to infancy and childhood, aside from the specific diseases characteristic of this period of life. They include the tendencies to hyperpyrexia, to convulsions, to diarrheal disorders, etc., all frequently occurring with what may be little or no provocation. These predispositions are usually attributed to immature or unstable regulatory mechanisms and this is probably the correct explanation.

Another of these metabolic peculiarities which is common in the young, and the one to which especial attention will be directed in this paper, is the quite marked tendency of infants and children to develop a ketosis during the course of a disease process. This is a condition rarely observed in adult life except during starvation and even then it is of much lesser degree than is observed in children.

Both etiologically and clinically, conditions of acidosis, alkalosis, and dehydration are so intimately related to ketosis that some incidental discussion of these derangements must be included.

It is proposed to outline the mechanism and treatment of ketosis as it may present itself during the course of childhood diseases, and to touch briefly upon the symptomatology. The prompt recognition and treatment of this complication will often favorably influence the outcome of the case. It must be remembered also that marked degrees of ketonemia may so mask the symptoms of the primary disease as to cause a mistake in diagnosis. Conversely, when it is known that a ketosis exists, one must guard against attributing to it symptoms which arise from the primary process.

Ketosis is defined as a condition marked by the excessive formation of ketones in the body, ketones being any compound containing the CO, or carbonyl, group. Acetone, diacetic acid, and beta-hydroxybutyric acid

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are the most frequently encountered ketone bodies.

It has long been known that ketosis results from insufficient metabolism of glucose. Also, that the oxidation of fatty acids with carbon atoms leads to the formation of diacetic acid, this being oxidized only by the simultaneous combustion of glucose, in line with the old dictum that fats burn in the flames of carbohydrates. The end results of fat katabolism are water and carbon dioxide. If, however, the aceto-acetic acid is not oxidized, it remains in the tissues, breaking down in part into acetone and beta-hydroxybutyric acid. All three substances will appear in the urine and blood, and acetone in the expired air.

Studies by Woodyatt² and others have given rise to ketogenic:antiketogenic ratios, expressing the quantitative relationship between fatty acids and glucose. The Woodyatt ratio is 1:5 for adults and when this proportion is exceeded, acetone bodies appear in the urine. The ketolytic action of glucose in children, however, is considerably smaller than in adults. Levine³ and his co-workers showed that, at the threshold of ketosis, children require about twice as much glucose to metabolize a given amount of fat. This accounts for the rapid fall in the blood sugar of fasting children and indicates one of the reasons why children are unable to endure prolonged starvation.

The basis for this low ratio is not known. It has been attributed to accelerated endocrine stimulus. Contributory factors are the naturally high metabolic rate, often additionally increased by fever, and the lessened carbohydrate intake, occurring from refusal of food or vomiting.

There has been a tendency in the past to refer to an individual exhibiting ketosis as being acidotic, implying that there is a disturbance of the acid:base equilibrium. The several protective agencies of the body may, however, take care of the ketonemia so that this balance is not disturbed. The expiration of carbon dioxide by the lungs, the excretion of acids by the kidneys, and the formation of the organic base, ammonia, are the chief protective mechanisms. It is only when the ketosis is prolonged or severe that these

agencies do not suffice. Then the fixed base must be utilized to neutralize the ketone acids, with a resulting acidosis.

It is not always possible to distinguish ketosis from acidosis clinically, but from the standpoint of treatment, it may be unwise to assume that every child manifesting the classic signs of ketosis is also acidotic. While there is a correlation between the two conditions in that acidosis generally accompanies the severer forms of ketosis, this is by no means true of the milder grades. If the ketone bodies themselves are accepted as the cause of symptoms, it can be seen that even when coma is present, there may be no marked change in the acid:base balance, as evidenced by a lowered carbon dioxide combining power of the blood plasma. This is a fairly common observation in diabetes. As a matter of fact, it has been observed by Haldane and others, and I have seen a few such cases myself, that ketosis may occur even in the presence of an alkalosis, as where there has been a great loss of hydrochloric acid by vomiting, or an undue dissipation of carbon dioxide by overbreathing or anoxemia. If a considerable amount of either hydrochloric acid or carbon dioxide is lost, the bicarbonates may be relatively increased, without changing the picture of ketosis.

The milder types of ketosis are those which accompany the ordinary febrile conditions of childhood, particularly if refusal and vomiting of food are prominent features. The severer grades are those which occur in the course of an acute gastro-enteric disorder. Here, due chiefly to a loss of fixed base through diarrheal stools, as well as to the accumulation of acid products through faulty renal excreting, there is often some degree of acidosis. It is in these cases that dehydration frequently complicates the picture. This, then, is the mechanism of ketosis in the normal child. In addition, however, there are certain children who will develop the condition under circumstances which are quite without effect upon the non-susceptible child. Not so much is known as to why these children behave in this manner. I refer to those individuals who are subject to recurrent attacks of vomiting; the so-called cyclic vomiters.

Fundamentally, there is a disproportion between the amounts of metabolized fat and glucose. There have been many explanations as to the cause of this difficulty. It may be due to a greater tendency of susceptible children to burn fat, or that they are deprived of the mechanism for storing fat. Certainly, most of them are of thin build. Schloss and Weymuller⁴ found that in feeding identical high fat diets to both normal and susceptible children, the susceptible ones developed a greater degree of ketosis than those who were not.

The symptoms of ketosis are well known. They include clouding of the sensorium, ranging from drowsiness to coma, air hunger, vomiting, prostration, and, rarely, convulsions. Accompanying many diseases of childhood, as they do, it is readily seen how such symptoms may cloud a diagnosis unless constantly borne in mind.

The laboratory diagnosis depends upon the finding of ketone bodies in the urine. The sodium nitro-prusside test is a very sensitive one, marked reactions often being obtained when clinical signs are inconspicuous. For this reason, the ferric chloride test for diacetic acid is to be preferred as a check upon the severity of the ketosis.

Neither of these tests gives any information as to whether the acid:base balance has been disturbed. This determination is usually confined to hospital practice and consists in a calculation of the carbon dioxide combining power of the blood plasma, or the carbon dioxide tension of the alveolar air, according to Marriott's method. Alkali tolerance tests, while easily performed, must be used with caution. There is always the danger, especially with scanty secretion of urine, that the excess bicarbonate will not be eliminated, with an ensuing alkalosis.

While the mechanism of ketosis may be little understood at many points, there is a more general agreement as to the proper mode of treatment. The keystone in the therapy of ketosis is glucose. Milder grades of ketosis as they are encountered in the ordinary infectious and minor intestinal diseases of early life are readily controlled in most cases by the oral, rectal, or subcutaneous administration of glucose. In the light of our knowl-

edge that in these lesser degrees of ketosis the acid:base balance is not upset and that the condition is primarily one of a faulty adjustment between fat and carbohydrate metabolism, it follows that the administration of alkalis is not only unnecessary, but may actually do harm. This applies particularly to cases in which vomiting is a prominent feature, with consequent loss of hydrochloric acid and a relative increase in bicarbonate. In this type of ketosis, as opposed to the diabetic type, there is usually a low blood sugar. Consequently every effort should be directed toward building up the sugar content of the blood so that ketone bodies may be katabolized.

The use of insulin has been recommended by some. Since, however, there has never been shown to be any pancreatic deficiency, since the blood sugar is low, and not high, and since there is no glycosuria, there seems to be no rational reason for its administration.

The treatment of severer forms of ketosis complicating the serious gastro-intestinal disorders of early life is somewhat more involved. If a picture of refusal of food, diarrhea, and vomiting has persisted for several days, there may be some degree of acidosis. Dehydration may also be present. It is here that small doses of an alkali may be given with benefit, on the assumption that there has been a loss of fixed base through the stools and an accumulation of acids through kidney dysfunction. This need may be supplied by giving small doses of sodium bicarbonate. Darrow's solution or the sodium lactate solution of Hartmann have the advantage of supplying both base and fluid at the same time. It is not advisable to continue any alkali beyond the point where the urine becomes alkaline, regardless of the degree of ketonuria.

Where dehydration is also present, another factor must be considered. Dehydration occurs from the loss of body fluid materials and, as has been shown by Gamble⁵, this loss is composed almost entirely of sodium and chloride ions. The same observer also demonstrated that although these ions may be lost in varying amounts, the kidneys, if functioning properly, are able to exert a se-

lective action in retaining or rejecting the basic sodium ions or the acid chloride ions according to tissue needs.

These body fluid materials must be replaced by the giving of normal salt solution. Ordinarily, about 20 cc. per pound of body weight is used and repeated as often as the symptoms seem to warrant.

There is one very important point to be made with respect to the use of sodium chloride. Schloss¹, Schoenthal⁷, and others have called attention to the often damaged kidney function of such cases and have stressed the fact that unless the oliguria or anuria is first overcome, there may occur a highly detrimental increase of chloride ions in the blood from the use of sodium chloride. The kidneys must first be gotten into condition for exercising their selective function.

This is accomplished by the intravenous use of 10 per cent solution of glucose. It is useless to attempt any further medication unless a flow of urine can be established. The glucose solution should be given slowly, in amounts of about 10 cc. per pound of body weight.

The better practice, then, is to administer glucose until there is a response from the kidneys. The isotonic salt solution may then be given safely. I am quite certain that the unreasoned use of sodium chloride prior to a reaction on the part of the kidneys may do more harm than good.

The treatment of the child subject to recurrent attacks of vomiting remains to be considered. As has been stated, there probably exists a greater tendency to burn fat than to store it. Hence, a low fat diet is indicated. Such factors as focal infection, constipation, or emotional instability, which seem to act as trigger mechanisms, must be given appropriate attention. During an attack, glucose administration, as outlined for the milder grades of ketosis, is indicated. Alkali therapy is unnecessary unless the attack is prolonged.

Summarizing, I have outlined the mechanism of ketosis, with passing mention of its symptoms. Reference has been made to the importance of keeping its symptomatology in mind so that prompt and rational therapy may be given. In ketosis uncom-

plicated by acidosis or dehydration, glucose is the only therapeutic requirement. In the more severe forms, where acidosis and dehydration are present, small doses of alkali may be of benefit, together with a restoration of body fluids, after first determining that the kidneys are functioning properly.

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Discussion on Paper by Dr. Ruskin King

DR. C. HALL FARMER (Macon): After this very able discussion on non-diabetic ketosis by Dr. King, it would be almost impossible for any one to add much. I am therefore confining my remarks to some of the points in the mechanism and treatment of ketosis.

The essence of ketosis is incomplete combustion of fats, with the accumulation of ketone bodies in the blood. One of the first points therefore is the prevention of ketosis. I would emphasize the point that every child should be fed a diet as high in carbohydrates as the child will tolerate. I think this will oftentimes prevent the milder types of ketosis, which are seen as transient conditions. In the more severe types with vomiting, the refusal of food, etc., the measures must of necessity be more radical.

It is frequently impractical to do the intricate laboratory tests necessary to determine whether there is a simple ketosis or whether it is alkalosis, or an acidosis with ketosis.

I recommend the use of Hartmann's solution, or so-called physiologic buffer salts. This is simply Ringer's solution with molecular sodium lactate added. In cases of alkalosis the body uses its selective action to utilize the acid in this solution and in cases of acidosis the reverse is true. This solution can be combined with glucose in isotonic or hypertonic solution. If it is impossible to determine whether or not the patient is suffering with alkalosis, an acidosis, a ketosis, or a combination of these, I would advise the use of the glucose solution with a physiologic buffer salts. This solution may be given intraperitoneally, intravenously or subcutaneously and in my experience it has been just as satisfactory as the use of salt solution.

DR. RUSKIN KING (Savannah): The point I wished particularly to make was against the indiscriminate use of alkalis at the onset of vomiting in the acute diseases of childhood, especially the giving of large amounts of bicarbonate of soda. While it would seem to be of little use in the majority of cases, no real harm could result from the use of such a slowly absorbed alkali as Hartmann's solution.

TREATMENT OF CLINICAL ACIDOSIS*

PHILIP A. MULHERIN, M.D.

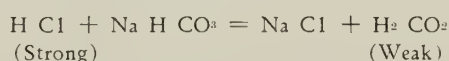
Augusta

That a disturbance of the chemistry of the body alone can be of sufficient magnitude to cause death is a well known platitude. Medical literature for the past ten years is voluminous with references to such conditions. Medical students and practitioners alike have been assailed on all sides with warnings, reproofs and advices on how, when, and what to do for "acidosis." Even the laity is familiar with the term. Much of this advice means nothing. Others are so clothed in technical terms that the reader is hopelessly confused, has thus been discouraged from further inquiry or has given up in disgust. Notwithstanding the popularization of the term, many hundred babies die each year in a state of unrelieved "acidosis." Many of them will continue to die from the underlying causes of the disturbance, but all would have a considerably better chance were this complication relieved. The question that naturally arises is: Can it be relieved? The answer is yes, and very promptly. Then How? By several methods, the relative values of each is not within the scope of this paper to discuss. The most prompt, and to my mind, effective method is by the use of sodium lactate solution as developed and recommended by Hartmann.

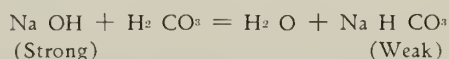
Before explaining the use of this substance it might be well to review briefly some of the normal chemical reactions of the body, derangements of which result in the condition we are discussing. To begin with, we all know there are going on in our bodies incessant chemical changes. Carbon dioxide is being constantly formed from the oxidation of all food stuff. Phosphoric ($\text{H}^3 \text{PO}_4$) and sulphuric ($\text{H}_2 \text{SO}_4$) acids are arising from the metabolism of ingested protein. Lactic acid accumulates with excessive exercise. The basic radicals, sodium (Na), potassium (K), magnesium (Mg),

calcium (Ca), are abundantly present in all vegetables. Throughout all this our body functions with seeming indifference. Despite even a prolonged ingestion of acid-forming foods, or alkaline substances, this indifference continues. We know also our bodily functions are performed better when our cells are bathed in a fluid of a certain reaction. It happens to be slightly alkaline, a pH of 7.4. This figure is maintained in health at all times. How is this accomplished?

It is accomplished chiefly by the buffer substances present in our body fluids. The buffer substances, which in health are available at all times, are our chemical policemen. They will pounce on a possible offender as soon as it appears, and lead it off handcuffed to be put out of circulation. The buffers mainly concerned are carbonic acid ($\text{H}_2 \text{CO}_3$) and sodium acid phosphate ($\text{Na}^2 \text{H PO}_4$) weak acids; soda bicarbonate (Na H CO_3) and sodium phosphate ($\text{Na}^2 \text{H PO}_4$), weak alkalies. These substances are so weak that it takes very great increases in each to alter appreciably the normal alkalinity of the blood. When a strong acid, one that would have a marked effect on the pH appears from metabolism, it is attacked by the weak alkali, and a weak acid and neutral salt is formed. For instance:



Conversely, when a strong alkali appears, the buffer acids render it impotent, as:



These weak acids and alkalies, as they accumulate, are marched off and eliminated via the lungs and kidneys.

Now this mechanism is a very substantial one. Even in sickness it demands a great deal of vomiting, diarrhea, or polyuria to disturb it. The diagnosis of acidosis is much more often made than it is warranted. Over an eleven year period (1923-33, inclusive), out of 32,829 total admissions to St. Louis Children's Hospital there were 436 cases of acidosis, an incidence of 1.32 per cent, and that in a hospital where the entire staff is

*Read before the Medical Association of Georgia, Atlanta, May 8, 1935.

constantly and actively interested in the study of such conditions. The most practical absolute method of determining the status of the buffer substances is a chemical analysis of the carbon dioxide content of the blood serum. However, when this is not feasible, the nature of the disease can tell what to guard against. In conditions of severe diarrhea, vomiting from low intestinal obstructions, and diabetes mellitus, when parenteral fluids of some sort become necessary, no harm will be done if sodium lactate is given, even though the carbon dioxide content is not known. The carbon dioxide content of the blood serum is 55 vol. per cent when these buffers are present in normal amounts and relations. It has been shown³ that they have to be reduced to about 35 vol. per cent, or something over a third, before clinical evidence of acidosis is seen. But this reduction does occur in the above mentioned conditions as well as others. When it occurs it represents a relative increase of carbonic acid, due either to a loss from the body of sodium bicarbonate or an increase of carbonic acid, more often the former. It then requires treatment directed towards replacing the lost bicarbonate. That brings us to the use of sodium lactate.

This solution is the sodium salt of lactic acid. The molar solution is put out by Eli Lilly Co., and Parke, Davis and Co., in sterile ampules of 40 cc. each. It is a hypertonic solution, and consequently has to be diluted before administration. A dilution of 5 times, or 1 in 6, with sterile distilled water gives an isotonic solution, and is the dilution recommended by Hartmann. This may be given intravenously, intraperitoneally, or subcutaneously. Severe acidosis, when treated by this solution is relieved in 6 to 8 hours. Hartmann, et al.¹ have shown that this substance is readily metabolized in the body. The lactate portion when metabolized releases basic sodium, which of course cannot exist as such in the body. It immediately combines with some of the carbonic acid to form sodium bicarbonate, thus at one and the same time reducing the acid and increasing the alkali. The following two cases are illustrative of its effectiveness:

Report of Cases

Case 1. R. L., white female infant of 6 months, admitted to St. Louis Children's Hospital on January 23, 1933.

History: Five days previously the baby had developed a cold characterized by fever, nasal discharge and slight cough. Next day, to this had been added diarrhea, consisting of 10 to 15 watery, green stools a day. The child was actively treated by purgation, and vomiting began. All symptoms had continued up to the time of admission.

Past History: Birth, development and feeding history were essentially negative.

Physical Examination: A very ill baby with T. 101.3°. Respirations rapid, deep and pauseless. Eyes and anterior fontanelle sunken. Skin dry, with poor turgor. Pulse thready and rate well over 200. Extremities cold and pale gray in color. Pharynx moderately injected. Ears normal, lungs clear, heart negative, except for poor tones. Abdomen normal. Reflexes sluggish.

Urinalysis: Color, dark brown, reaction acid, albumin 1+, sugar negative. Acetone 2+, microscopic: numerous hyaline and fine granular casts, many discrete W. B. C.

Blood: Hg. 75 per cent, R. B. C. 4,100,000; W. B. C. 7,350. Chemistry at 9:00 A. M.

CO ₂	23.7 vol. per cent
NaCl.....	872.0 mg. per cent
Prot.....	7.6 mg. per cent
N.P.N.....	127.0 mg. per cent
Lactic Acid.....	63.5 mg. per cent

The child was given a dose of sodium lactate when the blood for chemical analysis was removed. Together with this she received 400 cc. of physiologic buffer salts solution subcutaneously. Just 3 hours later, at 11:55 P. M. the CO₂ was 41.6 vol. per cent, well above the danger zone. By late afternoon she was breathing quietly, looking infinitely better. She was put on a protein milk formula and the buffer salts solution was repeated. The next afternoon her blood chemistry was:

CO ₂	61.6 vol. per cent
Na Cl.....	655.0 mg. per cent
Prot.	4.47 mg. per cent
N.P.N.....	34.0 mg. per cent
Lactic Acid	26.8 mg. per cent

Although on this date she developed edema of extremities and convulsions, they responded to magnesium sulphate and blood transfusion. Thereafter her diarrhea gradually diminished, temperature returned to normal and remained so, and she was discharged exactly one week after admission.

Case 2. L. W., a white female infant of 2 years, admitted to St. Louis Children's Hospital on October 6, 1933.

History: This child had polyuria, polydipsia and polyphagia, together with loss of weight for 3 months. She was known to have been a diabetic for 2 months. Three days previous to admission the parents had

	9:00 A.M.	9:30 A.M.	10:30 A.M.	11:30 A.M.	12:30 P.M.	1:30 P.M.	2:30 P.M.	4:00 P.M.	4:30 P.M.
CO ₂ Vol. %	10.4	Pt. given: 120 cc. Molar 600 cc. Lactate distilled water.	29.2	38.6	42.5	40.4	Pt. given: Insulin U VI Subcutan- eously	Pt. given: 120 cc. Orange Juice	49.0
Sugar Mg. %	525.0	—	237.0	115.0	56.0	48.0	—	—	56.0
Lactic Acid Mg. %	32.8	Insulin U. XII intraven- ously	58.0	35.2	26.5	20.2	—	—	—
Na Cl Mg. %	596.0	—	—	—	—	—	—	—	—
N. P. N. Mg. %	—	Insulin U. XII Subcutan- eously.	25.0	25.0	25.0	25.0	—	—	—
Protein Mg. %	—	800 cc. P. B. S. Subcutan- eously.	7.48	7.02	7.56	7.56	—	—	—

abandoned in disgust the diet and insulin, and embraced Christian Science. Soon afterwards the symptoms reappeared, and later, vomiting, weakness, dyspnea and somnolence were added.

Past History: Birth, development and feeding histories were essentially negative. The girl was of Jewish parentage.

Physical Examination: An undernourished child of 2 years, with sunken eyes, pallid extremities, rapid, thready pulse. Skin was dry, with poor turgor. Respiration fell, rapid and pauseless. Sensorium blurred. Pupils sluggish. E. E. N. and T. negative. Lungs clear, heart negative, except for rapid rate. Abdomen negative. T. 100.4°.

This girl being a known diabetic was immediately treated for diabetic acidosis, with sodium lactate solution, insulin and physiological buffer salts solution. Charted above are her chemical responses in the first 7 hours:

By night fall she was alert and talkative. She ate some, but not all, of her supper. Thereafter the case was simply one of establishing good eating habits in a spoiled child, and regulating the proper insulin dosage on an adequate diet. She was discharged 13 days after admission.

The dose, as recommended by Hartmann, is 10 cc. of the molar solution per Kg. of body weight. If the CO₂ content is known, the dose can be computed exactly. But since most cases giving clinical signs have a CO₂ of 35 vol. per cent, or less, the dose of 10 cc. can be given blindly with safety. After dilution of the dose with distilled water the usual procedure is to give one-third intravenously, one-third intraperitoneally, and one-third subcutaneously. Unless the condition producing the acidosis continues unabated, the one dose is sufficient; fluids, such as Ringer's or physiologic buffer salts solution being administered thereafter as indicated, to prevent a recurrence. However, the dose may be repeated whenever necessary.

Summary

In this paper a brief review of the action of the buffer substances of the blood is

given. Attention is called to the promptness and effectiveness with which sodium lactate solution can combat conditions of acidosis. There are two case histories included as illustrations.

REFERENCES

1. Hartmann, A. F., and Senn, M. J. E.: Studied in the Metabolism of Sodium Lactate, *J. Clin. Invest.* 11:327, March, 1932.
 2. Hartmann, A. F.: *J. Pediatrics* 5:394, 1932.
 3. Stillman, Van Slyke, Cullen & Fitz: *J. Bio. Chem.* 30:405, 1917.
- Wright, Sampson—*Applied Physiology*; Oxford University Press, 1934.
- Van Slyke, D. D. & Peters, J. P.: *Quantitative Clinical Chemistry*; Interpretations, 1931.
- Hartmann, A. F.: *Acidosis, Alkalosis and Dehydration*; *Colorado Medicine*, November, 1929.

Discussion on Paper by Dr. Philip A. Mulherin

DR. WILLIAM C. COOK (Columbus): All of us enjoyed Dr. Mulherin's paper immensely, and are especially appreciative of his bringing this discussion to us just as the summer season of diarrhea is beginning when acidosis will be more or less prevalent.

The development of molar sodium lactate solution by Dr. Hartmann has given us an aid in the treatment of acidosis which is apparently more generally applicable than the other solutions hitherto available. Various solutions, such as Fischer's, Ringer's, and its various modifications, glucose, physiologic saline, blood, and others, have been and are being used advantageously in the treatment of acidosis. The principle upon which any therapy in the treatment of acidosis is based is that alkali and acid do not remain long in the blood, but diffuse rapidly throughout the body fluids. By far the most important point in the treatment of acidosis is the correct diagnosis of this complication, together with its underlying condition. All of us have experienced instances in which we were sure acidosis was present, and later found alkalosis to be present. Of course a carbon dioxide analysis will determine this point.

It is consequently important that in treating acidosis as a complication, the solution which furnishes the most readily available base be given. It is logical also that the therapy of the complicating acidosis be governed to some extent by the primary underlying dis-

ease. In diabetes, for instance, ordinarily the administration of insulin will bring back to normal the acid-base disturbance. It does this by allowing the metabolism of the abnormal acids, thus liberating the base, such as sodium and potassium. If the acidosis has persisted for a long enough time, the cells of the tissues will be sufficiently damaged so that some solution containing alkali is indicated and will be beneficial.

In nephritis, it is our aim to promote and maintain diuresis. Various solutions, water being a most prominent one, are used for this. Sometimes the acidosis accompanying nephritis can be relieved by the administration of alkali, thus opening up the damaged kidney. In gastro-enteritis and other similar conditions in which there are diarrhea and vomiting, there is the problem of which loss is greater, hydrochloric acid by vomiting, or base by the diarrhea? Solutions then such as physiologic saline, glucose, and others, are indicated. Molar sodium lactate, as Dr. Mulherin has told us, liberates the base slowly, and because of this is most advantageous. In conditions in which we are unable to determine the carbon dioxide content of the blood, such a solution is most effective and especially safe. There is not the danger of getting an alkalosis by treating an acidosis with a solution that liberates the base so slowly.

The effect of this solution is important. In cases where there has been a chronicity with a marked loss of base, the use of the molar sodium lactate solution proves most effective.

Somewhat at variance with Dr. Mulherin, it was our experience for some time at the Cincinnati General Hospital that in the acute, severe types of acidosis, in which we could determine the carbon dioxide content of the blood, accurately measured doses of sodium bicarbonate given intravenously in a 4 or 5 per cent solution restored the acid-base balance more quickly and more definitely than did other solutions. This speed of recovery is most important. The administration of sodium bicarbonate is in disrepute with some because an accurately calculated dose was not used by them. This substance should not be used intravenously unless the carbon dioxide content of the blood has been determined.

DR. WILLIAM H. KISER, JR. (Atlanta): Dr. Mulherin has brought a technical subject to us clearly. I want to emphasize that he is speaking of a definite and rather restricted condition. Acidosis is seen in children chiefly in the acute severe diarrhea of which he spoke.

Several years ago I had the opportunity to study several chemical factors in the serum of such cases. The buffer mechanisms of the blood are a little confusing. The acid elements are attached to the base. You might think of the size of the base as a bucket. You carry a certain amount of water in the bucket. The size of the base would be like the bucket. You do not want the bucket so full that you get your pants wet. You leave a small amount empty. You think of that as the alkali reserve. We may carry the bucket

completely filled with water, but we have to carry it very carefully. We might think of that as the stage of compensated acidosis; the basic elements are used to their fullest and yet there is no true change in the pH. So the measure of pH gives a small amount of information as to the actual state of the child.

We were particularly interested in discovering what was happening in these children with acidosis. It was not very clear what made the acidosis. Our final conclusion was there was a decrease in the total base, a moderate decrease, that is, the depth of the bucket was reduced, and in addition to that there was a retention of several acids. The phosphorus, for example, was large, and the chloride was often large. We might think of these as secondary to the dehydration of the blood. The blood was so concentrated that the kidneys were not acting properly. That is the reason we find casts in the urine, and albumin. In those circumstances there is a retention of acid. It seemed to us at the time that a proper correction would then permit the kidney to function and the blood would rearrange itself in the proper fashion.

Dr. Mulherin has just come back from the North and he is bringing up a very ticklish subject. I have found the physicians here are very sentimental about acidity. I should like to emphasize that there is a good deal of misconception about the matter. The titrate of acidity of the urine gives us no information about what is wrong in the body. The kidney is the second line of defense, and we ought to be very thankful that the kidneys can excrete an acid urine. Another thing is a vomiting acidosis. That depletes the body of chloride of acid ion, and the child has lost a considerable amount of acid.

The objection was raised that in rabbits, that did not vomit, this could not be an explanation. We found the rabbits' stomachs filled with the acid. They had lost it from the blood; they had an alkalosis; they were not vomiting but the stomach was filled with the gastric juices.

I have seen occasional instances where such vomiting has been treated too enthusiastically with alkali. For example, I was called to see a woman in the late months of pregnancy. She had cramps in the fingers; she had vomiting, and someone had been giving her soda. The CO_2 was 8.4, and the pH showed a marked change to increased alkalinity. When they stopped the soda, this improved.

I think the distinction made by Dr. King about ketosis is a good thing. We should reserve the term for those cases where there is a true depletion of alkali reserve or a change in pH, and a mere finding of acid in the urine should not be taken as an evidence of acidosis.

DR. HOWARD J. MORRISON (Savannah): As has been mentioned previously, it is not always possible to tell whether these children are in alkalosis or in acidosis. It is not always feasible, either, to obtain a carbon dioxide content of the blood. There is a rough clinical test that can be carried out on the urine in these children, and particularly is it true when the

kidney function is good that in acidosis the chlorides are excreted in the urine, while in alkalosis there is a less amount of chloride excreted in the urine.

This test of trying to differentiate between acidosis and alkalosis is to more strongly acidify the urine with the glacial acetic acid, and a few drops of silver nitrate added to the test tube. If there are chlorides being excreted in the urine, there will be a precipitate thrown down of silver chloride, and of course it is most probable that the child is suffering from an acidosis. Conversely it is true that the absence of a precipitate suggests alkalosis.

DR. FRANCIS B. BLACKMAR (Columbus): For the past few years as one of a national group of men studying this problem, certain convictions have been acquired, and as time has gone on our convictions have been strengthened. We believe that a red mucosa of the nasal septum means a shift of the N. C. G. level (autonomic nervous equilibrium, chemical equilibrium, and equilibria of certain of the glands of internal secretion) toward the acidosis side and a pale septal mucosa means a shift of the N. C. G. level toward the side of alkalosis.

It is surprising how many children are seen with the scarlet red nasal septa which we feel is an indication that they need more alkaline foods.

We used to get a thrill out of picking up undiagnosed cases of diabetes by following the lead of a red septum. This has become so common that it has ceased to be remarkable any more. When we see a scarlet red nasal septum we first want to find out if nephritis or diabetes is present. These cases in the absence of diabetes and nephritis often give a diet history indicating an excessive intake of acid type foods out of proportion to the alkaline foods.

I wish to disagree with Dr. Kiser on his statement that the urine reaction is worthless. I do not think it is. I know it was used by some of our forebears, and as a thing that has been used a long time it has probably lost caste, but I furnish my patients with a tube, an indicator, and a bottle of reagent and have them titrate their own urine. Frequently the changes in urine acidity will parallel the changes in the color of the nasal septum.

The use of alkalis alone will often change the color of a red nasal septum to a neutral color if the displacement is due to chemical imbalance rather than an imbalance of glandular or autonomic factors.

Pale septa often go with a history of excessive alkaline diet. In correcting this it is a good plan to have the patient titrate the urine acidity, and if he finds a low acidity in the urine, increase five drops of dilute hydrochloric acid at each dose until he gets a normal acidity in the urine. Often the dose will have to be as high as 120 drops three times a day.

I should like to ask Dr. Mulherin, in closing his discussion on his paper, if he has come in contact with the sodium potassium equilibrium. Our conception is that the potassium ion exerts its influence on the alkaline side of the N. C. G. equilibrium, whereas the sodium ion is a factor on the opposite

side. I would also like to ask how the consideration of lactic acid in buttermilk fits into the acid:base phase of the treatment of his patients.

DR. PHILIP A. MULHERIN (Augusta): I want to thank these gentlemen for the discussion. I think I can answer some of the questions, but I do not know whether I can answer them adequately, in a limited length of time.

Dr. Cook remarked that the insulin in diabetes will correct a diabetic acidosis. It will, together with fluids, but I think in most of the published series the length of time is considerably longer than six or eight or twelve hours. You may bring a patient out of ketosis with insulin, but the CO_2 will lag appreciably, and it may be two, three or four days before the CO_2 will become normal. The longer it takes, the easier it is to lapse back into an acidosis.

As to the sodium bicarbonate, that is a very effective means of treating acidosis and replacing the lost sodium bicarbonate; in fact, that has been a most about sodium bicarbonate is that it is difficult to popular remedy for a number of years. The difficulty sterilize. Of course you can make it up from a dry state, not sterilize it; give it in sterile distilled water and not have much danger of septicemia and the like, but then you are giving sodium bicarbonate as such, and throwing into the body a tremendous amount of alkali at one time, without allowing the kidneys time to improve their function, and most times the kidneys function is reduced when you need alkali. It seems to me it would be much more advantageous to put your alkali in slowly, as with the sodium lactate. It is put in as the lactate is metabolized. This might be compared to putting sodium bicarbonate in as a slow drip, at the same time putting in some salt solution to increase the blood volume, and thereby increase the volume flow through the kidney, and thus improve the kidney circulation and function.

Dr. Kiser brought up some very interesting points. One is the fact that the pH determination is more exact than the CO_2 , or the combination of the two is the most effective method. That is true, but it is difficult to get a dependable pH reading. I did not go into that, because it gets us all involved.

There are only two mechanisms of adjusting the buffer value of the blood. One is by blowing off carbon dioxide excess through the lungs, and the other is by eliminating excess acid as such, or in combination with ammonia or fixed base through the kidneys.

I did not go into the latter side of the question, because it is much more involved. The question Dr. Kiser referred to on the popularization of the term "acidosis," is a timely one. I tried to mention in the paper that the term is used much more frequently than is warranted. We see kids all the time with so-called "acid rashes," or having a "little acid condition." That does not mean anything to anybody. Just because they have an acid urine, or show an acid reaction when some popular solution is dropped on the palm of their hands, does not mean a thing. Normally the perspiration varies from a pH of 5 to 8,

and you are just testing the reaction of the perspiration.

As to the question of vomiting always resulting in alkalosis, I should like to disagree with Dr. Kiser on that. It will in most instances be the case, provided the hydrochloric acid in the stomach is high. It has been shown that HCl is very frequently reduced in fevers, and in dehydration, and you can vomit quite extensively and not lose much chloride. You can vomit quite extensively and, on the contrary, lose a lot of alkaline pancreatic juice.

The test that Dr. Morrison referred to is of practical value. You simply test for chloride in the urine. If a person has alkalosis, as a rule the chloride is low, and the loss of chloride is made up by the accumulation of sodium bicarbonate.

Dr. Blackmar's question about sodium potassium and calcium; one tending to cause acidosis and the other alkalosis, I am not familiar with. I thought they were all fixed bases and were potential alkalies, at least available to neutralize an acid radical. I do not know that they have any effect; I have never observed any effect on the nasal mucosa. It is a new thought to me that acidosis and alkalosis present themselves in a different appearance of the nasal mucosa.

FINANCIAL REPORT OF SECRETARY-TREASURER MEDICAL ASSOCIATION OF GEORGIA 1934-1935

In making this, my fifteenth annual financial report as Secretary-Treasurer of the Medical Association of Georgia, I'm pleased to state that on May 1, 1935, we had \$8,217.07 cash on deposit in the bank which is \$1,034.35 more than we have ever had at the end of any fiscal year in the entire 86 years of the existence of the Association. The previous high water mark was May 1, 1925, when we had \$7,182.68 on deposit.

In accordance with instructions from the 1934 House of Delegates, upon recommendation of the Council, we have set aside in a special trust fund in a savings account, the entire amount contributed to the History fund. The amount is \$1,200.00, which is being kept separate from the general funds of the Association, to be used for the publication of "A History of Medicine in Georgia." Should this not be accomplished it is to be returned to the contributors whose names are on file in the official records of the Association. Incidentally, the Association has already spent \$1398.81 in the collection and preparation of material for this History.

On May 1, 1934, we had \$6,963.89 on hand to which we added by total collections \$13,383.57, making a grand total of \$20,347.46 to be accounted for. Our total expenditures for the fiscal year were \$12,130.39, leaving, as stated before, \$8,217.07 which, of course, includes the History fund.

A detailed and itemized statement of all receipts and expenditures is attached hereto for publication in the official transactions after verification by the Auditing Committee.

Our Constitution and By-Laws state that the annual dues shall not exceed ten dollars. The dues for this year were fixed at six dollars. The Association at this session will therefore fix the dues for 1936.

Respectfully submitted,

ALLEN H. BUNCE, M.D.

Secretary-Treasurer.

MEDICAL ASSOCIATION OF GEORGIA

Receipts and Disbursements

May 1, 1934, to April 30, 1935

Receipts

May 1, 1934—Cash in Bank	\$ 6,963.89
May 1, to April 30, 1935—Collected	13,383.57
	<hr/> \$20,347.46

Disbursements

May 1, 1934, April 30, 1935	
Disbursements as per itemized statement	\$12,130.39
Cash on Hand—History fund savings account	1,200.00
In bank subject to check	7,017.07
	<hr/> \$20,347.46

DISBURSEMENTS

May 1, 1934 to April 30, 1935

No.	NAME	AMOUNT
2175—	Alliance Printing Co. Printing and mailing 1900 copies of the April, 1934 issue of the Journal	\$321.00
2176—	Herff-Jones Co. "Badge of Service" for President, Chas. H. Richardson, 1933-34	3.57
2177—	Empire Letter Shop 750 Letters multigraphed with signature of Dr. Chas. H. Richardson, President, to former and delinquent members; signature plate for Dr. Clarence L. Ayers, President, 1934-5 and 700 letters multigraphed	12.25
2178—	Southern Bell Telephone & Telegraph Co. Telephone account to April 11, 1934	9.30
2179—	Atlanta Envelope Co. 25,000 Envelopes for mailing the Journal	95.25
2180—	Service Engraving Co. Copper halftone for illustration	6.86
2181—	Wolverine Art Shops 550 Badges for Augusta meeting, May 9-11, 1934	35.59
2182—	Ivan Allen-Marshall Co. Paste and folders	4.65
2183—	Allen H. Bunce, M.D. Salary as Secretary-Treasurer for April, 1934	150.00
2184—	H. L. Rowe Salary as Executive Secretary for April, 1934	175.00
2185—	J. L. Cambell, M.D., Chairman, Cancer Commission, Expenses incurred for postage, letterheads, telegrams and telephone calls for the fiscal year ending April 30, 1934	25.00
2186—	J. A. Redfearn, M.D. Expenses incurred as Councilor to May 1, 1934	20.00
2187—	Lon F. Livingston, Acting Postmaster Postage	30.00

NO.	NAME	AMOUNT	NO.	NAME	AMOUNT
2188	R. F. Dressell Painting signs and work for the Association and scientific exhibitors.....	21.50		President; and prints from cut of Dr. Chas. H. Richardson, President 1933-4	43.66
2189	Mrs. Collie Morrow Stenographic work for Dr. C. W. Roberts, Chairman of Reference Committee, Augusta meeting	2.50	2208	Southern Press Clipping Bureau News clippings and clippings in reference to Steiner Ward at Grady Hospital for April and May, 1934.....	14.00
2190	I. M. Kelly Material and work on scientific exhibit and lantern for scientific meetings, Augusta, May 8-11, 1934.....	4.50	2209	Wm. H. Myers, M.D. Payment on expenses to attend the Cleveland meeting of the American Medical Association as a delegate, June 11-15, 1934	100.00
2191	T. S. Williams Night watchman for commercial exhibits, Augusta, May 7-11, 1934....	18.00	2210	C. W. Roberts, M.D. Payment on expenses to attend the Cleveland meeting of the American Medical Association as a delegate, June 11-15, 1934	100.00
2192	Miss Elizabeth Hallinan Work selling alumni dinner tickets and at Registration Desk, Augusta, May 8-11, 1934	10.00	2211	O. H. Weaver, M.D. Payment on expenses to attend the Cleveland meeting of the American Medical Association as a delegate, June 11-15, 1934	100.00
2193	H. L. Rowe Transportation to and from Augusta, May 6-11, 1934, and other expenses for the Augusta session, May 8-11, 1934	16.10	2212	Allen H. Bunce, M.D. Salary as Secretary-Treasurer for May, 1934	150.00
2194	Cash Expenses paid for transferring supplies, help for commercial exhibitors, ribbon for badges, cards for registering members and other expenses, Augusta, May 8-11, 1934.....	19.35	2213	H. L. Rowe Salary as Executive Secretary for May, 1934	175.00
2195	Lon F. Livingston, Acting Postmaster Postage	30.00	2214	Ivan Allen-Marshall Co. Gem clips, pencils, T. W. ribbon and twine	5.00
2196	H. L. Rowe Expenses to and from Augusta, March 22, 1934, to get sketch of floor space for commercial exhibits at Hotel Richmond for Augusta meeting May 7-11, 1934	6.60	2215	Western Union Telegraph Co. Telegraph account to June 1, 1934....	6.35
2197	Miss Annie Jacks Commission on advertising contracts	25.17	2216	The Master Reporting Co. Reporting the Augusta meeting, May 8-11, 1934, proceedings of the general meetings and House of Delegates, minutes of Council and transcript of discussions and express charges.....	301.47
2198	Dr. Waltman Walters, Rochester, Minn. Expenses to and from Augusta, invited guest and speaker, Augusta meeting, May 9, 1934.....	104.55	2217	Miss Annie Jacks Commission for order on advertising	9.75
2199	Dr. Louis Hamman, Baltimore Expenses to and from Augusta, invited guest and speaker, Augusta meeting, May 9, 1934	52.00	2218	Miss Annie Jacks Commission on orders for advertising	36.54
2200	B. H. Miller Book Store, Nashville, Tenn. Four bound volumes of transactions of the Association, 1878-1881-1882-1883	4.21	2219	Mrs. J. Bonar White Honorarium voted by the Council of the Association as a token and in appreciation for the excellent work done as President of the Woman's Auxiliary	50.00
2201	Alliance Printing Co. Printing and mailing 1960 copies of the May, 1934, issue of the Journal	326.40	2220	Alliance Printing Co. Printing and mailing 1600 copies of the June, 1934, issue of the Journal	294.50
2202	Alliance Printing Co. 650 Programs for the Augusta meeting, May 8-11, 1934.....	97.95	2221	Empire Letter Shop Multigraphing letters which were mailed to officers of the Association, Ex-Presidents, Councilors and members of the House of Delegates advising them the date and time for the first meeting of the House of Delegates at Augusta, May 8, 1934.....	1.75
2203	J. N. Reisman Rent for May and June, 1934.....	28.50	2222	Southern Bell Tel. & Tel. Co. Telephone account to June 11, 1934	9.05
2204	Wm. R. Houston, M.D. Postage and clerical work in making up program for the Augusta meeting, May 8-11, 1934	18.06	2223	Service Engraving Co. Cuts from photos of Dr. Chas. H. Richardson and Dr. Jas. E. Paullin, Ex-President and President-Elect respectively, and repairs on advertising electros.	10.72
2205	Addressograph Co. B. Alloy plates for changes in mailing list and new members.....	1.78	2224	J. F. Thompson Engraving Co. 3,000 Engraved letterheads and 3,000 engraved envelopes for Dr. Clarence L. Ayers, President of the Association	45.00
2206	Southern Bell Tel. & Tel. Co. Telephone account to May 11, 1934	17.00	2225	L. F. Livingston, Acting Postmaster Deposit for mailing the Journal.....	25.00
2207	Service Engraving Co. Cuts for illustrations, two cuts made from photo of Dr. C. L. Ayers,				

NO.	NAME	AMOUNT	NO.	NAME	AMOUNT
2226	Allen H. Bunce, M.D. Salary as Secretary-Treasurer for June, 1934	150.00	2252	Western Union Telegraph Co. Telegraph account to October, 1934	1.26
2227	H. L. Rowe Salary as Executive Secretary for June, 1934	175.00	2253	Southern Press Clipping Bureau News clippings for August and September, 1934	12.00
2228	H. G. Weaver, M.D. Expenses incurred as Councilor to July, 1934	2.96	2254	Empire Letter Shop Multigraphing letters for the Association to all delinquent and former members; also letters for Councilors of the First, Second and Third Districts to delinquent and former members in their respective districts and signature plate for each	16.50
2229	J. E. Penland, M.D. Expenses incurred as Councilor to July, 1934	14.70	2255	Bryan, Middlebrooks & Carter, Attys. Cost for reporting trial of case—Mrs. Oliver B. Smith vs. Dr. Wm. P. Nicolson, Jr.	34.35
2230	Hillyer C. Warlick Print from photo of Dr. Chas. H. Richardson. Ex-President of the Association	1.25	2256	American Medical Association One copy of the Thirteenth Edition of the American Medical Directory	12.00
2231	L. F. Livingston, Acting Postmaster Postage	30.00	2257	Southern Bell Tel. & Tel. Co. Telephone account to September 11, 1934	7.50
2232	Ivan Allen-Marshall Co. Second sheets, wrapping paper, twine and rubber bands	5.25	2258	Service Engraving Co. Halftones for illustrations and repairs on electors for advertisers	9.69
2233	Empire Letter Shop 6,000 Letters heads and 6,000 envelopes for officers and committees	47.46	2259	Miss Annie Jacks Commission on collecting and advertising orders	14.53
2234	American Surety Co. Premium on surety bond No. 237072D, for H. I. Rowe, September 6, 1935	5.00	2260	Allen H. Bunce, M.D. Salary as Secretary-Treasurer for September, 1934	150.00
2235	Southern Bell Tel. & Tel. Co. Telephone account to July 11, 1934	8.05	2261	H. L. Rowe Salary as Executive Secretary for September, 1934	175.00
2236	J. N. Reisman Rent for July and August, 1934	28.50	2262	L. F. Livingston, Acting Postmaster Postage	30.00
2237	Southern Press Clipping Bureau News Clippings for June and July, 1934	14.00	2263	Miss Anna Thurman Stenographic work for the Cancer Commission, Dr. J. L. Campbell, Chairman	11.25
2238	Allen H. Bunce, M.D. Salary as Secretary-Treasurer for July, 1934	150.00	2264	Alliance Printing Co. Printing and mailing 1700 copies of the October, 1934, issue of the Journal	296.94
2239	H. L. Rowe Salary as Executive Secretary for July, 1934	175.00	2265	L. F. Livingston, Acting Postmaster Postage	30.00
2240	Alliance Printing Co. Printing and mailing 1600 copies of the July, 1934, issue of the Journal	294.00	2266	Southern Bell Tel. & Tel. Co. Telephone account to October, 1934	6.00
2241	Georgia Power Co. Oscillating fan	31.00	2267	Underwood-Elliott Fisher Co. New parts and repairs on typewriter	12.85
2242	L. F. Livingston, Acting Postmaster Postage	30.00	2268	Empire Letter Shop Signature plates for Dr. Jas. E. Paullin, President-Elect, and Dr. S. J. Lewis, Councilor; two sets of letters multigraphed for former and delinquent members in the state in the names of Dr. C. L. Ayers and Dr. J. E. Paullin; also letters to former and delinquent members in the Tenth District in the name of Dr. S. J. Lewis	14.35
2243	Alliance Printing Co. Printing and mailing 1625 copies of the August, 1934, issue of the Journal and resetting copies of two discussions	300.75	2269	Bryan, Middlebrooks & Carter, Attys. Special information in reference to suit of Mrs. Olivia B. Smith vs. Dr. Wm. Perrin Nicolson	15.00
2244	Service Engraving Co. Cut for illustration	3.90	2270	Miss Annie Jacks Commission on advertising and collection	10.25
2245	Southern Bell Tel. & Tel. Co. Telephone account to August 11, 1934	6.00	2271	Allen H. Bunce, M.D. Salary as Secretary-Treasurer for October, 1934	150.00
2246	Allen H. Bunce, M.D. Salary as Secretary-Treasurer for August, 1934	150.00			
2247	H. L. Rowe Salary as Executive Secretary for August, 1934	175.00			
2248	C. L. Ayers, M.D. Honorarium for President, 1934-5	150.00			
2249	L. F. Livingston, Acting Postmaster Postage	30.00			
2250	Alliance Printing Co. Printing and mailing 1700 copies of the September, 1934, issue of the Journal	305.51			
2251	J. N. Reisman Rent for September and October, 1934	28.50			

NO.	NAME	AMOUNT
2272	H. L. Rowe Salary as Executive Secretary for Oc- tober, 1934	175.00
2273	L. F. Livingston, Acting Postmaster Deposit for mailing the Journal	25.00
2274	Mrs. D. E. Granger Commission on advertising contract	9.75
2275	L. F. Livingston, Acting Postmaster Postage	30.00
2276	Miss Annie Jacks Commission on advertising and collec- tions	4.29
2277	Service Engraving Co. Cuts for illustrations and repairs on electros for advertisers	25.40
2278	Alliance Printing Co. 250 Reprints for Dr. J. C. Massee, Associate Editor of the Journal	9.50
2279	J. F. Thompson Engraving Co. Cuts for illustrations and engraving on the L. G. Hardman Silver Loving Cup	27.13
2280	Alliance Printing Co. Printing and mailing 1725 copies of the November, 1934, issue of the Journal	307.87
2281	Ivan Allen-Marshall Co. Journal for registering names of members and addresses, index tabs, ink, T. W. ribbon, carbon paper, gem clips, paste, T. W. paper, W. pens, pencils and erasers	15.30
2282	Southern Press Clipping Bureau News clippings for October and No- vember, 1934	10.00
2283	Southern Bell Tel. & Tel. Co. Telephone account to November 11, 1934	6.00
2284	J. N. Reisman Rent for November and December, 1934	28.50
2285	Atlanta Envelop Co. 11,825 Envelopes—No. 10 for regu- lar mail	38.79
2286	Empire Letter Shop Multigraphing letters to former and delinquent members \$4.26; and multi- graphing letters for Dr. E. D. Colvin in reference to maternal mortality— \$11.50	15.70
2287	Allen H. Bunce, M.D. Salary as Secretary-Treasurer for No- vember, 1934	150.00
2288	H. L. Rowe Salary as Executive Secretary for No- vember, 1934	175.00
2289	L. F. Livingston, Acting Postmaster Postage	30.00
2290	L. F. Livingston, Acting Postmaster Postage	30.00
2291	Addressograph Sales Agency Ribbon for Addressograph94
2292	Western Union Telegraph Co. Telegraph account for September, Oc- tober and November, 1934	3.74
2293	Alliance Printing Co. Printing and mailing 1800 copies of the December, 1934, issue of the Journal	315.75
2294	J. F. Thompson Engraving Co. Cuts for illustrations	40.64

NO.	NAME	AMOUNT
2295	Ivan Allen-Marshall Co. Envelopes, gem clips and T. W. rib- bon	3.20
2296	Empire Letter Shop Multigraphing letters to secretaries of county societies in reference to proofs of roster of members and of- ficers; letters to county secretaries with blanks for reporting roster of officers and members for 1935; letters for the Committee on Public Policy and Legislation in reference to legisla- tive program	4.90
2297	Alliance Printing Co. Printing 2,000 membership cards and 1800 pink slips inserted in Journal in reference to dues for 1935	21.19
2298	L. F. Livingston, Acting Postmaster Postage	30.00
2299	Allen H. Bunce, M.D. Salary as Secretary-Treasurer for De- cember, 1934	150.00
2300	H. L. Rowe Salary as Executive Secretary for De- cember, 1934	175.00
2301	M. M. McCord, M.D. Expenses incurred as Councilor for the Seventh District	10.00
2302	Western Union Telegraph Co. Telegraph account to January 1, 1935	3.15
2303	Southern Bell Tel. & Tel. Co. Telephone account to December 11, 1934	7.80
2304	C. L. Ayers, M.D., President Postage, telephone account and steno- graphic work	36.45
2305	Alliance Printing Co. Printing and mailing 1800 copies of the January, 1935, issue of the Journal	314.34
2306	L. F. Livingston, Acting Postmaster Postage	30.00
2307	Southern Press Clipping Bureau News Clippings for December and January, 1935	10.00
2308	J. N. Reisman Rent for January and February, 1935	28.50
2309	Southern Bell Tel. & Tel. Co. Telephone account to January 11, 1935	28.55
2310	Empire Letter Shop Multigraphing letters to former mem- bers who dropped out from 1929- 1934	3.65
2311	Allen H. Bunce, M.D. Salary as Secretary-Treasurer for January, 1935	150.00
2312	H. L. Rowe Salary as Executive Secretary for January, 1935	175.00
2313	Miss Annie Jacks Commission on advertising orders	23.08
2314	L. F. Livingston, Acting Postmaster Postage	30.00
2315	Byran, Middlebrooks & Carter, Attys. Retainer as attorneys for the Associa- tion, January 1st to December 31st, 1935	1250.00
2316	J. A. Redfearn, M.D. Telephone calls in reference to physical examinations of people on Federal Emergency Relief Rolls	3.55

NO.	NAME	AMOUNT	NO.	NAME	AMOUNT
2317	Alliance Printing Company Printing and mailing 1800 copies of the February, 1935, issue of the Journal	306.25	2339	Dr. R. E. Hamilton Refund for overpayment of dues for Dr. C. V. Vansant	1.00
2318	J. F. Thompson Engraving Company. Copper halftone for illustration.....	6.64	2340	L. F. Livingston, Acting Postmaster Postage	30.00
2319	Empire Letter Shop Multigraphing letters in reference to commercial exhibit space at the Bilt- more Hotel, Atlanta, May 7, 8, 9, 10, 1935	1.50	2341	Southern Bell Tel. & Tel. Co. Telephone account for Committee on Public Policy and Legislation.....	12.83
2320	Southern Bell Tel. & Tel. Co. Telephone account to Febru- ary 11, 1935	6.76	2342	J. A. Redfearn, M.D. Expenses incurred as Councilor for the Second District	26.00
2321	Alliance Printing Company 2,000 Reprints of editorials by Drs. Murphey, Daniel and Dancy; 2,000 copies of the Eighth Edition of Radio Waves	24.90	2343	J. E. Penland, M.D. Expenses incurred for Committee on Public Policy and Legislation.....	2.35
2322	S. H. Benedict Drawing and prints of floor space for commercial exhibits at the Biltmore Hotel, Atlanta, May 7-10, 1935....	11.90	2344	J. G. Standifer, M.D. Telephone calls for the Committee on Public Policy and Legislation.....	2.00
2323	Allen H. Bunce, M.D. Salary as Secretary-Treasurer for Feb- ruary, 1935	150.00	2345	Fulton National Bank, Atlanta Savings account set aside for "History Fund"—amount, \$1200, counted in cash balance	
2324	H. L. Rowe Salary as Executive Secretary for Feb- ruary, 1935	175.00	2346	L. F. Livingston, Acting Postmaster Postage	30.00
2325	L. F. Livingston, Acting Postmaster Deposit for mailing the Journal.....	25.00	April 24, 1935	Check, Martin L. Malloy, Vienna, returned unpaid	6.00
2326	L. F. Livingston, Acting Postmaster Postage	30.00		Exchange deducted by the Fulton Na- tional Bank for the fiscal year ending April 30, 1935	9.15
2327	L. F. Livingston, Acting Postmaster Postage	30.00		United States Government stamp tax on checks as shown by charges by bank statements	2.70
2328	Miss Annie Jacks Commission on advertising order and collection	7.50		TOTAL	\$12,130.39
2329	L. F. Livingston, Acting Postmaster Postage	30.00	PNEUMOPERITONEUM FOLLOWING OPERATION FOR HERNIA*		
2330	Alliance Printing Company Printing and mailing 1800 copies of the March, 1935, issue of the Journal	315.74	<i>Case Report</i>		
2331	Spratlin, Harrington & Thomas, Ags. Premium on surety bond of Allen H. Bunce, M.D., Secretary-Treasurer, April 1, 1935, to April 1, 1936 ..	7.50	A. R. ROZAR, M.D.		
2332	Alliance Printing Company Binding eleven volumes of the 1934- issue of the Journal.....	16.25	<i>Macon</i>		
2333	Southern Bell Tel. & Tel. Co. Telephone account to March 11, 1935 ..	19.03	It is the unusual and unexpected things in medicine and surgery that keep up our in- terest. If all cases were typical I am afraid that our profession would be a stale one, and we would not be encouraged to do research and investigation.		
2334	Empire Letter Shop Bond paper and envelopes and multi- graphing 1100 copies of quotation from Dr. E. C. Thrash's Presidential address; 900 letters to delinquent and former members, invitation to attend Atlanta session; letters reference dele- gates; also letters for Dr. C. Thomp- son	26.50	The case I am reporting is not one in which I feel I can offer you anything as to diagnosis or treatment, but I am submitting it because it was unusual to me and I hope that you can be of some help in finding a solution.		
2335	Allen H. Bunce, M.D. Salary as Secretary-Treasurer for March, 1935	150.00	"The peritoneum is the largest serous mem- brane in the body, and consists in the male of a closed sac, a part of which is applied against the abdominal parietes, while the re- mainder is reflected over the contained vis- cera. In the female, the peritoneum is not		
2336	H. L. Rowe Salary as Executive Secretary for March, 1935	175.00			
2337	J. N. Reisman Rent for March and April, 1935.....	28.50			
2338	Southern Press Clipping Bureau News clippings for February and March, 1935	10.00			

*Read before the Medical Association of Georgia, Atlanta, May 8, 1935.

a closed sac, since the free extremities of the fallopian tubes open directly into the peritoneal cavity."

Gas or air in the abdominal cavity is not an uncommon occurrence when associated with perforation of a hollow viscus, or when it is associated with certain inflammatory conditions; but, air in the peritoneal cavity, especially in the male without evidence of perforation or inflammation is a rare condition.

Dr. Harry A. Singer says: "It was believed by the early writers that intraperitoneal gas was due to bacterial action and this is undoubtedly incorrect, since the amount of infectious material in these cases is minimal." W. McAdam Eccles says: "The question whether intestinal gas can pass through the uninjured and non-inflamed wall of the small or large intestine is one of great interest. Cases have been recorded in which gas has transuded from the unbroken wall of the intestines into the general peritoneal cavity. The exact manner in which this occurred is difficult to say. The gas itself appears in these circumstances to be aseptic and therefore innocuous."

Quoting further from Dr. Singer on the mechanism of valvular pneumoperitoneum: "Tension pneumoperitoneum was thought by early writers to be due to infection by a gas-producing micro-organism. On this account the term 'Gasperitonitis' was proposed and was accepted by Coenen⁴. In 1917, however, Oberst⁵ reported a case of tension pneumoperitoneum in which evidence of peritonitis was lacking, the intra-abdominal air being derived from a traumatic perforation of the stomach. This author assumed the mechanism of the closure of the opening to be a valvular one and believed that the gas was forced into the abdominal cavity. Later Brunzel⁶ reported two cases due to ruptured ulcer in which the liver acted as a valve, permitting the air to leave the stomach but not to re-enter it. Subsequent writers, both in Holland and Germany, observed examples that substantiated the mechanical explanation of tension pneumoperitoneum and served to cast grave doubt on the infectious theory. At present, the tendency on the part of most writers is to regard valvular closure of a per-

foration as the sole cause of pneumoperitoneum."

The following is a brief history of and the findings in my case:

E. L. V., male, aged 58, married, was admitted to the hospital September 9, 1934, his chief complaint being a double inguinal hernia, from which he had suffered for about 40 years. He had worn a truss for most of this time. The left hernia had always been larger than the right, and about 2 months ago the left side became so large that he had to spend much time in bed.

He had measles when 19 years old, was very sick; and following this had fluid in left chest which was not drawn off; was in bed 3 or 4 weeks and unable to work for 6 months. In 1919, he had a severe case of flu and was sick about 3 weeks. In 1923, he was pushing an automobile and pulled loose a ligament in his left leg, which required an operation. Seven years ago he had an attack of acute appendicitis and was operated upon.

Physical findings were essentially negative, but because of excessive nausea from the anesthesia when operated upon several years ago, he requested that he be operated upon under local anesthesia.

On the morning of September 10, he was given hypodermic of morphine sulphate gr. 1/4, hyoscine hydrochloride gr. 1/200, and was operated upon under local anesthesia of procaine 0.5 and 1 per cent. Ferguson's operation was done on the left or large side, and a modified Bassini on the right side. He was returned to his room in excellent condition. For 48 hours his condition was satisfactory. On the third day he began to show some distention which was accounted for by the fact that the large hernia had been returned to the abdominal cavity. There was no nausea. A rectal tube and enema removed a large quantity of gas but did not entirely relieve his distention. On fourth day, his pulse began to go up to 120 and remained at 120 to 130 until the ninth day. His temperature curve was from normal to 101, usually 99.8. On the afternoon of the ninth day, his distention was so marked that he was given a spinal anesthetic. This relaxed his sphincter; he passed some gas, but his abdomen was still tight. On the tenth day, his abdomen had become so tight that he became cyanotic, his temperature rose to 104.5 F., pulse 136, and an enterostomy was advised. He was again carried to the operating room and under a local anesthetic a right rectus incision was made and imagine our astonishment when opening the peritoneal cavity, there was a rush of gas, and the abdomen went down like a pricked balloon. There was no odor to the gas. My incision was enlarged to give me a view of the viscera. The intestines appeared normal; they were collapsed and packed back against the posterior wall. There was no excessive abdominal fluid and no evidence of inflammation. A small soft rubber drainage tube was placed in the peritoneal cavity, and the wound closed in layers.

Within a few hours the patient appeared practically

normal and was begging for food. He made a rapid recovery. I have seen him at least once every two weeks since, and he has remained normal with no return of his hernia. There was no evidence of infection to account for the gas; there was no distention of the intestines, if gas does pass through the uninjured intestinal wall; and there was no evidence at any time of perforation of the stomach or intestinal tract. However, I am inclined to believe that there must have been a small perforation somewhere with a ball-valve control.

Discussion on Paper of Dr. A. R. Rozar, Macon

DR. GEORGE A. WILLIAMS (Atlanta): Dr. Rozar mentioned that the intestines in his case were collapsed and packed against the posterior abdominal wall. I recall such a case occurring in the practice of one of my colleagues, in which it was noted at operation that the gut was collapsed to about one-fifth its usual diameter, as is common in spinal anesthesia. In this case pneumoperitoneum was noted about thirty hours postoperative, air having leaked out through the abdominal wound, producing an extensive subcutaneous emphysema. This was rather alarming to the patient and somewhat disconcerting to the surgeon.

I do not think that pneumoperitoneum presupposes puncture of the intestine or the introduction of gas forming organisms under such conditions. A plumber will tell you that the capacity of a one-inch pipe is about four times that of a half-inch pipe. Likewise, an intestine decreased in diameter from one inch to a half of an inch is decreased in volume and will displace only about one-fourth of the intra-abdominal space that it previously did. This tremendously decreases the intra-abdominal pressure, allowing influx of a large amount of atmospheric air over which the abdominal incision may be closed. When the gut resumes its normal activity, it tends to assume its usual size and to displace its usual volume. At this time the increased intra-abdominal pressure due to pneumoperitoneum may be detected.

Dr. Rozar's patient did not have spinal anesthesia, and, occurring as late in the postoperative period as it did, I do not know whether the pneumoperitoneum can be explained on the above basis. It is probable, however, that such a mechanism explains some of the discomfort which may follow abdominal operations performed under spinal anaesthesia, and under other forms of anesthesia if the abdomen is closed while the patient is in the Trendelenburg position. It may also serve to explain why pulmonary complications, such as massive atelectasis, may occur in clean cases operated upon under spinal anaesthesia.

Pneumoperitoneum of slight degree is probably fairly common. Why detectable pneumoperitoneum is not more frequently encountered is difficult to conjecture, except that most abdominal operations are of sufficient duration to occupy the period of greatest activity of the spinal anaesthetic agent.

DR. A. R. ROZAR (Macon): I thank Dr. Williams for the discussion. I want to say, however, that the

patient was not given a spinal anesthesia at the original operation, but the day before the last operation. Had I taken an x-ray in the case, it would probably have clarified the diagnosis.

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- Gray's Anatomy.
Harry A. Singer, The Medical Clinics of North America, March, 1935.
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Harry A. Singer, J. Am. M. Ass., 1932, XCIX, 2177-2180.

CLOSTRIDIUM WELCHII

Report of An Unusual Case Following An Abortion

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Various infections with the organisms producing gas gangrene have been described in the literature since the earliest times, but very little has been done in studying the nature of the organisms involved. The World War brought the study of this subject into greater prominence, due to the frequency with which gas gangrene occurred as a complication of wounds, and the high mortality that resulted. Some of the more common bacteria that produce the disease have been isolated, and studied in the hope of elaborating an antiserum which would reduce the mortality.

A large majority of the cases of gas gangrene are due to the *Clostridium Welchii*. The organisms belonging to this group are widely found in nature. They enter the gastro-intestinal tract of infants at the same time that the other organisms first contaminate the bowel. They are easily found in the feces, although the number present varies with the individual and the state of health. The *Clostridium Welchii* is primarily saprophytic and is found in the intestines of animals.

The *Clostridium Welchii* will grow only under anaerobic conditions. Growth takes place readily on almost any type of media and pleomorphic forms of great variety may appear. Spores are formed that are very resistant to the action of heat and chemical disinfectants. These spores survive for long periods of time in earth and are widely disseminated in dust.

The *Clostridium Welchii* is thought to

produce two types of toxins, one a hemolysin and the other a cytotoxin. The hemolysin will produce a rapid destruction of red blood cells, while the cytotoxin, sometimes called a myotoxin, will produce necrosis and autolysis of the tissues, including muscle. The presence of these two toxins has been proven conclusively by experimental work.

The *Clostridium Welchii* is the most invasive of the *Clostridium* group. The pathogenicity of different cultures of the organisms, varies considerably. Some are extremely virulent, while others are slightly so, if judged by the same experimental criteria. This accounts for the rather benign course that some infections pursue, as compared with the fulminating type of others. The conditions which aid its growth in wounds are the presence of dead or devitalized tissue, and the impaired blood supply due to the injury. Other pathogenic organisms are usually present and aid in its growth, as very few cases of infection occur in which the *Clostridium Welchii* is the only organism present.

Gas bacillus infections are commonly encountered in civil life, and appear to be increasing in numbers, as judged by the number of cases reported in the literature. This increase may be accounted for by the greater number of articles being printed, and the improved methods of diagnosis. Infections may be found in any branch of the practice of medicine. Wanke, in 1925, described two cases of gas gangrene, traced to *B. Welchii*, which followed a hypodermic injection. In these cases the needles were kept in 96 per cent alcohol. Orens, in his series of seven cases, described two that also followed a hypodermic injection. The author has seen a case of an apparently sterile abscess following a hypodermic injection, that was found to contain the *Clostridium Welchii*. In this case simple aspiration was sufficient to effect a cure. Why the usual type of infection failed to occur was inexplicable, except on the basis of low virulence for that strain or organism. Bacteriologic study showed slight aerogenesis and many pleomorphic forms. Most frequently gas gangrene follows extensive wounds, in which debris and various organisms are carried into the wound, along with

considerable trauma to the tissue causing conditions appropriate for its growth.

There are an increasing number of cases of gas gangrene being reported in the literature, which occur during the puerperium, and particularly following induced abortions. The most likely theory as to the cause of infection in these cases, is that the organisms are present on the hairs of the vulva, due to the close proximity with the anus, and that the instrument being introduced into the uterine cavity, carries with it some of the organisms.

There have been comparatively few reports of puerperal infection with the *Clostridium Welchii*, in the American periodicals, as compared with the foreign journals.

Toombs and Michelson, in 1928, gave a discussion of forty-five cases that had appeared in the literature, along with a case report of their own. In 1932, Toombs reported another case with a discussion of thirteen other cases which had appeared in the literature since his previous article. None of the latter cases were reported in the American journals. Since the case seen by the author was atypical and presented several points of interest, not found in other cases, a brief discussion and description was deemed of sufficient importance to be included in this report.

Report of Case

History: The patient was admitted to the hospital complaining of difficulty in respiration, and vaginal bleeding which had been present twenty-four hours. At the onset she suffered intense headache and backache. Shortly after that she had a severe chill which lasted thirty minutes. That evening she vomited after eating. The intense headache persisted, and that night she had several more violent chills. By morning she was very ill, and had difficulty in breathing. The patient stated that she had been bleeding from the vagina since the onset of her illness, and that this had increased the morning of admission.

The last menstrual period had been one month ago, and had lasted two days with scanty flow, instead of the usual four days with a moderate flow. The patient denied being pregnant. The husband stated he thought she was pregnant and had recently attempted an abortion. The past history was of no significance, except that she had three children living.

Physical Examination: On admission the temperature was 103 degrees, the pulse 120, and the respirations were 37. The patient was a well developed, well nourished negro, aged 28, appearing acutely ill. The

pupils reacted to light and accommodation. The sclera was markedly jaundiced. The mouth was dirty. Loud coarse rales were audible in both lungs without the use of a stethoscope. The breath sounds were increased. The cardiac rate was rapid, with regular rhythm. The liver was enlarged, two fingerbreadths below the costal margin, and was tender on palpation. There was slight tenderness on pressure just above the symphysis pubis. On vaginal examination, the cervix was soft and the canal open sufficiently to admit one finger. The extremities were not unusual.

Laboratory Examinations: On admission, the red blood cells numbered 3,100,000, the white blood cells numbered 24,950, and the hemoglobin was 55 per cent. The differential smear showed polymorphonuclear leukocytes 89 per cent, lymphocytes 6 per cent, transitional cells 3 per cent, and eosinophiles 2 per cent. The urine was deep cherry in color, acid and clear. The albumen was four plus, sugar negative, bile pigment one plus, urobilin negative, hemoglobin four plus, and the benzidine test for occult blood was four plus.

Hospital Course and Treatment: The general condition of the patient rapidly became worse. Stimulants and fluids were given intravenously but to no avail. A marked anemia rapidly developed and she died seven hours after her admission to the hospital.

Necropsy

Necropsy, done thirty minutes following death, showed a well developed and well nourished negress, aged 28 years. The anterior abdominal wall was loose and flaccid due to previous pregnancies. The pupils were normal in size, and the sclera had a definite icteric tinge. The peritoneal and pericardial cavities were not remarkable. Both pleural cavities were obliterated by a large number of old, dense, fibrous adhesions. The heart weighed 320 grams.

The myocardium was rather flabby and on cut section had the yellowish appearance of acute degeneration. Microscopically, the muscle fibers stained poorly, and the cross striations were indistinct. The left lung weighed 550 grams and the right weighed 850 grams. Scattered over the pleural surfaces of both lungs were a few hard, small nodules, resembling old healed tuberculous lesions. Both lungs felt very boggy and on cut section were markedly edematous. Diffusely scattered throughout both lungs were many small reddish areas, suggesting the beginning of diffuse broncho-pneumonia.

The liver weighed 1820 grams and extended three fingerbreadths below the costal margin. The liver cut very readily, the tissue being very soft and friable, and having the gross appearance of acute degeneration. Microscopic examination showed the liver cords to be considerably swollen. The nuclei of the liver cells stained poorly, and in some areas were actually necrotic. A few microscopic abscesses were present, in which the cells were fragmented and necrotic. In these places were many rather large, rod shaped bacilli having the appearance of *Clostridium Welchii*. These abscesses contained only a relatively small number of polymorphonuclear leukocytes. No attempt at phagocytosis was seen

and no other organisms were found. The gallbladder and the pancreas were not remarkable.

The spleen weighed 95 grams and its capsule was tense. On section the splenic tissue was of a very dark red color and contained considerable blood. On microscopic examination several abscesses were found, similar to those found in the liver. The left kidney weighed 115 grams and the right 120 grams. The capsule stripped readily from both kidneys, leaving a smooth surface and showing the foetal lobulations. Both kidneys were dark red in color and on cut section the entire renal parenchyma was markedly hemorrhagic, being almost the color of blood. The cortex and medulla could not be well demarcated. On microscopic examination the tubules were loaded with hemoglobin, as no red blood cells could be demonstrated.

The bladder contained 20 cc. of cherry red urine. The suprarenals appeared normal. The uterus was enlarged to the size of a four weeks pregnancy. The myometrium was hypertrophied and felt very firm. In the mid portion of the corpus uteri was a mass 3 cm. in diameter, which was necrotic and bloody. The pelvic veins were thrombosed. The tubes were congested and the ovaries enlarged, the left ovary containing a corpus luteum of pregnancy. The gastro-intestinal tract was normal.

Bacteriology

On both smear and culture from the necrotic mass in the uterus, there was obtained a diphtheroid and *Clostridium Welchii*. On culture of the heart's blood, *Clostridium Welchii* was the only organism obtained.

Discussion

In reviewing the literature the author has been unable to find a case similar to this one. Neither on physical examination nor at the autopsy were there any findings to indicate the true nature of the condition. There was no emphysema of any of the muscles, subcutaneous tissues, or viscera, as usually occurs in this disease. The blood culture if taken antemortem should have been positive, since the liver and spleen were infiltrated with the organisms, demonstrating it to be a blood stream infection. For diagnostic purposes this would have been of no value, since the patient died before a report could have been rendered.

This case of puerperal infection with *Clostridium Welchii* differs from the usual case, in that *Clostridium Welchii* is usually found in conjunction with some other known pathogenic organisms, such as the colon group or the streptococci. In this case only a diphtheroid and *Clostridium Welchii* could be obtained on culture from the uterine cavity. As the question of pathogenicity of the diphtheroids is in an unsettled state, the author

feels that it may be discounted entirely as a contributing factor to the death of the patient. Culture of the heart's blood grew only the *Clostridium Welchii*, demonstrating it to be the only known pathogen invading the blood stream.

The portal of entry for the infection in this case was undoubtedly from the uterus. The reason why there was no emphysema, or physometra of the myometrium is debatable. On culture the organism was demonstrated to have aerogenic properties, similar to most other strains. Possibly the open cervix of the uterus, allowed sufficient circulation to inhibit the growth of the organism, but not sufficient to prevent its invading the blood stream.

This particular strain of *Clostridium Welchii* was demonstrated to have marked hemolytic properties. A drop of a broth culture filtrate, inoculated on a blood agar plate, produced a rapid hemolysis of the media. This very marked hemolytic power accounts for the rapidly developing anemia of the patient, the passage of enormous amount of hemoglobin in the urine, and the choking of the renal tubules with hemoglobin.

The toxicity of this infection is well shown by the acute degeneration of all the viscera and the fulminating course which the disease pursued. That the bacilli, when present in the blood stream, may settle out in the viscera and form metastatic abscesses is shown by the abscesses found in the liver and spleen. Relatively few polymorphonuclear leukocytes were found around the abscesses in the viscera. This was due to a negative chemotaxis. The necrosis of the tissues around the abscesses illustrates the power of the toxins elaborated.

The generalized symptoms presented by the patient were similar to those found in other cases of infection with the *Clostridium Welchii*. These included the chills, cyanosis, air hunger, jaundice, rapid pulse and fever. The laboratory findings of leukocytosis, anemia, hemoglobinuria, and albuminuria, were typical of the disease.

Summary

This is a case of abortion, terminating in a *Clostridium Welchii* infection, with bacteremia and rapid death. At autopsy, no

gross signs of gas bacillus infection were present, but bacteriologic studies proved conclusively the nature of the infection. Microscopic sections showed acute degeneration of the organs with small abscesses in the liver and spleen.

Conclusions

1. Localized signs of infection with the *Clostridium Welchii* are not always present, and when absent may obscure the diagnosis.

2. Puerperal infections with the *Clostridium Welchii* are not always diagnosed antemortem, and may be missed postmortem, unless the autopsy is carefully done.

3. The systemic symptoms of infection with the *Clostridium Welchii*, may all be accounted for by the pathologic findings and the nature of the toxin elaborated.

4. The toxins of the *Clostridium Welchii* produce a hemolysis of the erythrocytes, a negative chemotaxis toward leukocytes, and a necrosis of tissue.

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†Formerly of Columbus, Ga.

Urology Abstract. Charles H. Chetwood and Malcolm Mason (Urological and Cutaneous Review, 1935), discussing internal urinary antiseptics, state that Picochrome has demonstrated its efficiency as an antiseptic. They give a series of cases among which are twenty acute gonorrhoeal urethritis patients. Two Picochrome capsules were given three times daily, after meals, over a period of eight weeks. No other treatment was administered. The urethral smears were negative in every case at the end of the eight weeks. They also report that Picochrome is well tolerated by the digestive system and there is no irritation of the urinary organs.

Grayson Carroll (Urologic and Cutaneous Review, Feb. 1935) discusses Evipal, an intravenous anesthetic. He reports having used this drug in more than fifty cases without untoward symptoms. He considers Evipal a good anesthetic for fulgurating tumors of the bladder and cystoscopy tuberculous and severely irritated bladders. He finds no contraindication to the use of this drug and says that it produces a short, safe anesthetic.—Abstract by Spencer A. Kirkland, M.D., Atlanta.

THE JOURNAL

OF THE

MEDICAL ASSOCIATION OF GEORGIA

Devoted to Welfare of the Medical Association of Georgia

478 Peachtree Street, N.E., Atlanta, Ga.

NOVEMBER, 1935

MEDICAL SURVEY

In response to the request of the House of Delegates of the Medical Association of Georgia at its annual session in Augusta in 1934 and again at the annual session in Atlanta in 1935, for an economic survey of the medical needs of the citizenry of this State, we are happy to announce that the Association in cooperation with the State Board of Health and the United States Public Health Service, has such a survey under way and by the time this issue of the JOURNAL reaches you work will have started in sixteen counties of the State. An effort has been made to distribute the counties taking part in this study to various parts of the State in North, South, East, West, and Middle Georgia as follows: Banks, Burke, Calhoun, Carroll, Clinch, Coffee, Decatur, Fulton, Glynn, Hancock, Macon, Morgan, Oglethorpe, Tattall, Troup, Whitfield and Wilcox.

A medical director has been appointed for each county selected for study who will have complete charge of the personnel engaged in accumulating the necessary data. In response to a call from the officers of your Association the medical directors assembled in Atlanta on October 28th for a two day period of instruction in the methods to be used in completing this survey. It is extremely gratifying that there was such loyal and enthusiastic interest manifested by those present and such whole-hearted cooperation in this undertaking.

The object of the survey is to determine in a factual way the general health conditions of the inhabitants of many of the small towns, but particularly of the rural population of the State; to determine to what extent measures useful in the prevention of such diseases as smallpox, diphtheria and typhoid have been employed; to establish the type of citizen who has or has not availed

himself of these procedures; to gain information as to the prevalence of disabling sickness and the character of the illness producing dependency; the type of medical care available in a community for handling these diseases and the economic status of the people who require most care for these disabilities. The United States Public Health Service is also interested in establishing the prevalence in the rural population of the incidence of chronic disabling diseases such as asthma, cancer, heart disease, etc.. The three organizations working harmoniously together should accumulate data which will be of inestimable value to the Medical Association of Georgia in helping to perform its needed function of rendering adequate medical care to all of the people.

As part of this survey, but undertaken entirely by the State Board of Health, will be an effort to determine the amount of money appropriated by each county of the State for health work and in furnishing medical care to the indigent.

The Medical Association of Georgia undertakes as part of its program a confidential questionnaire to be mailed to every practitioner in the State to ascertain the net income of physicians rendering medical service to the people, the amount of free service given, and asking for suggestions to improve conditions in their communities. These questionnaires are to be unsigned but the county from which they come is to be designated.

We feel sure that this movement will have the hearty cooperation of all of the profession, for it is only in this way that we will ever be able to establish facts necessary for the betterment of the public health and the welfare of physicians rendering service.

JAS. E. PAULLIN, M.D.

*President.***QUESTIONNAIRE FOR PHYSICIANS**

At an early date the 2616 white and 195 Negro physicians of Georgia will receive a questionnaire. The questionnaire will be explanatory and all physicians are urged to cooperate in correlating information which it is hoped will be beneficial to the profession of the state. Signatures to the blanks are not required, but it will be necessary to designate your county so that data from a cross-section of the state may be obtained.

THE DEVELOPMENT OF THORACIC SURGERY

No branch of surgery has shown more recent progress than surgery of the chest. For many centuries empyema was practically the only thoracic disease regularly subjected to surgical intervention, with occasional operations for trauma. During the past two or three decades numerous chest lesions have been successfully treated by surgical means, such as esophageal obstruction, aortic stenosis, pulmonary thrombosis, bronchiectasis, lung abscess, and mediastinal and lung tumors. The experience gained from the World War taught many valuable lessons in the management of chest wounds, and established new principles affecting thoracic surgery in general. Formerly the work was handicapped on account of the dangers of pneumothorax resulting from an open chest wall; today improved methods of anesthesia have obviated such dangers.

It is in tuberculosis, however, that thoracic surgery is finding its greatest field of usefulness. The object of applying surgery to the disease is to accomplish rest, as in treating tuberculosis in other organs. Such rest is produced by collapse and immobilization of the lung, causing alterations of the circulation of blood and lymph, and diminishing the general intoxication of the body. Tubercle bacilli, being aerobic, are thus deprived of their main source of life and propagation, oxygen.

In 1820, Carson first suggested artificial pneumothorax in the treatment of pulmonary tuberculosis, but Forlanini, 1882, was the first to put the method into practice. This procedure, which usually is regarded as non-surgical therapy, has prolonged many lives, and brought comfort to thousands of sufferers, and probably for a long time will remain the most used and safest method of instituting temporary collapse.

Paralysis and rise of the diaphragm by phrenicectomy, originally proposed by Steurtz in 1911, is on account of its ease of performance, a popular means of aiding a more or less permanent collapse. Often marked improvement is ascribed to the operation, and occasionally it is credited with

absolute cures. The procedure is not always devoid of danger, however, and as a rule has not given the satisfactory results which were at first anticipated. At one time it was considered important to precede every thoracoplasty by excision of part of the phrenic nerve, but now phrenicectomy is being abandoned by many who used to be its ardent advocates.

At the present time the operation of extrapleural thoracoplasty, properly performed upon the right patient at the right time, is benefiting and curing more patients than any other surgical method. De Cereville, in 1885, was the originator of the procedure, which has been modified by Brauer, Friedrich, Wilms and Sauerbruch abroad, Archibald in Canada, and Willy Meyer, Graham, Alexander, the lamented Hedblom, and others, in the United States. In the beginning only comparatively short segments of the upper eleven ribs were removed; now much longer segments are excised, the first rib being taken out almost entirely, and it is found unnecessary to remove so many ribs.

Other surgical measures are used for promoting collapse, and doubtless still others are yet to come. Extrapleural pneumolysis by packing fat, muscle, paraffin or vaselin gauze against the lung is effective in some cases. Closed intrapleural pneumolysis, by which pleural adhesions are severed through a thoracoscope, is especially advantageous as an aid to artificial pneumothorax. This ingenious procedure was introduced by Jacobaeus in 1813, and has been employed extensively in this country by the Matson brothers, of Portland, Oregon. Intercostal neurectomy is recommended by Alexander.

It is needless to say that nothing has contributed more to the development of thoracic surgery than roentgenology, without which but very little advancement would be possible. Indeed, as in all other surgery, the success of surgery of the chest depends upon cooperative team-work between surgeon, internist, radiologist and pathologist. This interesting branch of medical science is still far from being standardized, as abdominal surgery seems to be today. There is yet much to be learned. Ideas and technic change

constantly. An inviting field is open to more workers.

The American Association for Thoracic Surgery, founded eighteen years ago, has rendered conspicuous service in the development of the specialty. The leaders of the organization are among the most enthusiastic and ablest young surgeons of the country. The Association has been invited to hold its twentieth annual meeting in Atlanta in 1937.

FRANK K. BOLAND, M.D.

EVALUATING THE RESULTS OF TOTAL THYROIDECTOMIES IN CARDIAC DISTURBANCES

In the past three years there has occurred in the medical literature numerous articles on the total ablation of the thyroid gland for congestive heart failure and angina pectoris. The clinical observations which provided a rationale for this procedure were the results of studies on the velocity of the blood flow, by Blumgart, Weiss and others. By these studies it was shown that: "normally, the velocity of the flow was directly determined by the metabolic demands of the body, and the metabolic demands of the body were gauged by the basal metabolic rate. When the metabolic rate was accelerated, as in thyrotoxicosis, the speed of the blood flow was proportionately increased; on the other hand, when the metabolic rate was depressed, as in myxedema, the blood velocity was correspondingly lowered."

Other observers, notably Boas, found that the volume output from the hearts of patients with thyrotoxicosis was 25 to 60 per cent above normal. Approaching the problem from another angle, Means, White and Krantz found that when the basal metabolic rate of an anginal victim was elevated by the administration of thyroid extract, there was a marked increase in the severity of the attacks. Conversely, Haines and Kepler reported thirty-three cases of angina pectoris associated with hyperthyroidism with relief of each patient following subtotal thyroidectomy. The relief obtained by some of the patients was temporary, however, the attacks recurring after restoration of normal metabolism.

Hertzler takes the view that: "if the symptoms of grave heart lesions disappear after complete thyroidectomies, one must question the correctness of the diagnosis of organic heart disease, or the gland removed was not normal but toxic." While it would appear that he has not seen the results of the procedure and is speaking as a pathologist rather than a surgeon, all investigators agree that total ablation of the thyroid gland should not be accomplished until after the patient has had a fair trial at medical treatment and rest.

An analysis of fifty-four case reports of patients operated upon for total thyroidectomy, the cases of Cutler, the cases of Mixer, Blumgart and Berlin, and T. C. Davison, indicate the following results: The majority of the patients were relieved entirely of attacks, though others experienced greatly modified ones. Many have resumed their business activities under certain restrictions. If the myxedema became annoying, small doses of thyroid extract were given, care being exercised not to restore the metabolic rate to normal. There were only two deaths in the combined series, a mortality of less than 4 per cent and surprisingly low considering the risks involved.

T. C. D.

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NEW POLICY OF THE AMERICAN MEDICAL ASSOCIATION

A business meeting of the Council on Medical Education and Hospitals was held at the Brown Palace Hotel, Denver, September 15, 1935.

According to the minutes the survey of American medical schools so far completed has revealed certain significant weaknesses; namely,

There is a tendency for medical schools to enlarge their enrollment without a corresponding increase in personnel of instructional facilities.

With a growing appreciation of the necessity for an intimate correlation between clinical and laboratory knowledge, it is evident that this can be obtained only by increasingly close contact between preclinical and clinical departments continuously maintained from the

time the student first enters the medical school until he graduates.

The advances of the medical sciences have been and should be independent of any sectarian point of view, and medical education should not be handicapped or directed by a dogmatic attitude toward disease.

For these reasons the Council took the following action:

(a) *Resolved*, That in each medical school the number of students should not exceed the number that can be adequately taught with the laboratory, library and clinical facilities available and for whom a sufficiently large and competent teaching staff is provided.

(b) *Resolved*, That after July 1, 1938, the Council on Medical Education and Hospitals will no longer publish a list of approved two-year medical schools.

(c) *Resolved*, That after July 1, 1938, the Council on Medical Education and Hospitals will no longer carry on its approved list schools of sectarian medicine.

Reprinted from *The Journal of the American Medical Association*, Oct. 5, 1935, Vol. 105, p. 1123.

MEDICAL ECONOMIC SURVEY

The Medical Association of Georgia, in cooperation with the State Board of Health and the United States Public Health Service, has begun the preliminary work to make a medical economic survey in a cross-section of the state. The House of Delegates authorized the survey during the Association's annual session held in Augusta in 1934, and again during the annual session in Atlanta, May 7, 8, 9, 10, 1935.

The counties selected, with the names of directors, follow:

County	Director and Address
Banks	Dr. J. S. Jolley, Homer
Burke	Dr. R. L. Miller, Waynesboro
Calhoun	Dr. C. K. Sharp, Arlington
Carroll	Dr. C. C. Fitts, Carrollton
Clinch	Dr. F. M. Bruce, Homerville
Coffee	Dr. T. H. Johnston, Douglas
Decatur	Dr. M. A. Fort, Bainbridge
Fulton	U. S. P. H. S.
Glynn	Dr. M. E. Winchester, Brunswick
Hancock	Dr. Horace Darden, Sparta
Macon	Dr. F. M. Mullino, Montezuma
Morgan	Dr. Dan M. Carter, Madison
Oglethorpe	Dr. W. L. Greene, Jr., Lexington
Tattnall	Dr. A. C. Branch, Glennville
Troup	Dr. Enoch Callaway, LeGrange
Whitfield	Dr. Trammell Starr, Dalton
Wilcox	Dr. J. M. C. McAllister, Rochelle

The officers of the Association hope to use this information when obtained to promote the interest and welfare of our members and the people without adequate means to pay for medical care. This survey may be of inestimable value to promote legislation which our profession may sponsor or to defeat legislation which might be detrimental to our best interest, sponsored by the laity or lay organizations. Everything pertaining to the practice of medicine should be under the direct supervision of the profession.

THE EFFECT OF FEVER THERAPY ON RHEUMATIC CARDITIS ASSOCIATED WITH CHOREA

Abstract

Lucy Porter Sutton, M.D., and Katherine G. Dodge, M.D. *The Journal of Pediatrics*, April, 1935. Innumerable specific methods of treatment have been advocated in the care of chorea patients, none of them highly successful. Smith and Sutton, working in the Children's Department of Bellevue Hospital, reported very striking results with fever therapy induced by the administration of typhoid vaccine. Since that time other methods which produce sharp elevation of temperature, such as diathermy, hot packs and the drug Nirvanol (phenylethylhydantoin), have been used with consequent varying reports of effectiveness.

It has been generally accepted that fever therapy in patients with advanced heart disease or active carditis is contraindicated. Over two hundred cases of chorea have been treated in the Children's Service of Bellevue Hospital with fever therapy induced by typhoid vaccine and in this group were sixteen children with signs of active carditis at the time of treatment. These sixteen children were followed very closely and are reported in detail as case reports in this paper, by Drs. Sutton and Dodge.

The average number of fever treatments and the average number of days duration of therapy was ten, ranging from six to twenty-six. The fever induced by typhoid vaccine intravenously rises rapidly, attains usually a maximum of 104.5 degrees Fahrenheit, and then gradually falls to normal in a period of about eight hours.

In addition to the sixteen cases of carditis accompanied by chorea reported there were two preliminary reports of cases of carditis without chorea. These two cases were treated with artificial fever therapy produced by radiant energy. The temperature in these cases was elevated to 105 degrees and kept at this elevation for five hours. Following this the temperature remained elevated, but at a lower level.

In nine of the first sixteen cases discussed all clinical signs of activity had subsided at the end of treatment and in the others the signs were gone in from a week to ten days following the end of treatment. In summary the authors expressed the opinion that the fever therapy had no harmful effects on the carditis and that furthermore it seemed to have a beneficial effect on the course of the carditis.

The two cases of rheumatic carditis, without chorea, treated with radiant energy, showed improvement to the extent that activity cleared immediately following treatment in one case and in the other completely subsided after two treatments two weeks apart. In conclusion the authors stated that the presence of subacute carditis or inactive rheumatic heart disease is not necessarily a contraindication to the treatment of chorea with fever therapy.—Abstract by Don F. Cathcart, M.D., Atlanta.

WOMAN'S AUXILIARY

OFFICERS

President—Mrs. Ernest R. Harris, Winder.
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 Atlanta.
 Second Vice-President—Mrs. Warren A. Coleman,
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 Allen, Atlanta.
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 Thompson, Elberton.

ATTENTION, DOCTORS' WIVES

The following very interesting article, written by Mrs. J. Bonar White, President of the Woman's Auxiliary to the Southern Medical Association, should be read carefully by every doctor's wife in the state:

Everyone who is invited to become a member of a Medical Auxiliary should be told four things, because it is the informed and the understanding member who makes a loyal one and it is her loyalty which is the motor for her activities and for making other eligible women seek membership in the Auxiliary.

Each member is, therefore, responsible for the growth and progress of the Auxiliary. With the officers and chairmen, she decides whether her Auxiliary grows or just grows older. Members should assist the president and chairman of organization by knowing the answers to these questions that prospective members should and will make.

1. Why am I invited to be a member of a Medical Auxiliary?
2. In fact, why is there such an organization?
3. What will be my duties and obligations?
4. What will it mean to the Auxiliary and to me to be a member?

Briefly, the answers are:

1. You have been invited because you are eligible through your husband's affiliation with his local medical society and in accordance with the Constitution and By-Laws of your county, state, southern and national Auxiliaries.

2. There is a National Auxiliary because the House of Delegates of the American Medical Association approved such an organization, and county, state and southern Auxiliaries exist because of consent of their Medical Societies. They have been organized to

serve, that is to be an Auxiliary, to their medical units by:

Extending the aims of the medical profession in health to other organizations, through health education, public relations, legislation and Hygeia.

Assisting in the entertainment and conventions of their respective societies.

Promoting acquaintance among doctor's families so fellowship may increase.

By doing such work as may be requested and approved from time to time by their societies.

By always looking to their advisors for leadership and direction.

3. Duties and obligations—to pay dues; attend meetings; become informed about Auxiliary objectives and projects and how to fulfill them; to be active in those committees with the Auxiliary and the public which will serve the profession and through them the public. (See pamphlets on "What an Auxiliary Member Should Know" and on "How a Member Supports her Auxiliary").

4. It will mean keeping health leadership where it belongs, with the medical profession; that legislative enactments in health are controlled by it and that organized medicine and not organized lay opinions speak for the medical arts.

To a member, it means the unselfish satisfaction of serving with others the profession which has always defended human life and through years of study and perhaps of arduous sacrifices has prepared itself to bring safety and happiness to us; a satisfaction as beautiful as all the unsung songs within us and as permanent as the human temples we inhabit.

You may think members know these facts, but you will be surprised how many do not; but accept membership and pay dues because they are eligible. Annually, local presidents should discuss these at meetings, so ques-

tions from members and non-members may be answered promptly and simply.

The best approach to increasing local membership is to visit and extend a personal invitation. There are about four reactions you will receive. The recipient of the invitation will be responsive, or say she is not interested, or that she does not have time, or, in a few cases, that she does not care to belong.

Explain to the first and ask permission to explain to the others. The one who says she is not interested has not stopped to recall that being sick is as old as the frailties of man and there has always been a profession for defending human life, that its discoveries and inventions have been in pursuance of truth and that it never has secrets to keep, what it does is available to all. Its activities have been to forward civilization, and its leadership has changed our destinies and strengthened our morale. Remove this profession and life would become unbearable. All these are associated with a doctor's wife before marriage in the preservation of her health, but as a physician's wife doubly so. No songs, no poems, no bugle calls, no decisions of statesmanship, no pleasures have ever brought to the ill and their families the hope, the encouragement, the relief as have the words, "THE DOCTOR HAS COME." To serve such a profession is a natural part of the lives of physicians' wives!

The one who is busy in other organizations enmeshes herself in her own words when saying she has no time. Through knowledge gained as an Auxiliary member she has many opportunities to carry the ideals and aims of the profession to these organizations where there are no members of an Auxiliary—the only lay organization organized by permission of the medical profession to serve under its direction.

Auxiliary members directing state organization should follow closely the procedure in the handbook, and when they do progress to the first meeting of a new Auxiliary such a meeting should not conclude until the women realize the value of an Auxiliary and really want one. Blind organization is weak and unnecessary. Be sure to see that at least temporary officers are elected and a definite time set for the next meeting. Feed the material slowly, instruct in a close contact with the Advisory Board, offer to help them write their Constitution and By-Laws and to prepare the first programs for their meetings.

And last—gaining new friends is mining the richness of life. It is the flowering of our own respect to be gracious to new opportunities and new acquaintances. We have

different names, different environments, different social experiences but in our service to the medical profession and medical arts, we may all be ONE and together in this oneness seek that fellowship which, as gentlewomen, we shall always welcome.

Mrs. White Returns

Mrs. J. Bonar White, President of the Southern Medical Auxiliary and First Vice-President of the national organization, has recently returned from an official trip through Tennessee, Kentucky and West Virginia, where she visited Auxiliary meetings.

Mrs. White attended the state conventions of both Kentucky and West Virginia and was present at a local meeting in Knoxville, Tenn.

She came home very happy to report that West Virginia had chosen for its Doctors' Day Georgia's own March 30, anniversary of Crawford Long's discovery of anesthesia. The Kentucky convention voted to hold its Doctors' Day on March 30, 1936. Both conventions went on record as saying they felt Crawford Long belonged to them as well as to Georgia and were anxious to honor him.

Eighth District Meets

The Woman's Auxiliary to the Eighth District Medical Society met at the Daniel Ashley Hotel in Valdosta Tuesday, October 8, with officers for the year being elected. Mrs. Conrad Williams was named President; Mrs. Tom Ferrell, Vice-President; and Mrs. Alton Johnson, Secretary-Treasurer.

Mrs. Williams presided over the meeting, which was opened with invocation by the Rev. C. M. Meeks, Pastor of the Methodist church. Mrs. R. Alex Peoples made the address of welcome, to which Mrs. J. E. Penland, of Waycross, responded.

Curtis Jackson and Harris Dukes, accompanied by James Dasher, sang several selections and Miss Louise Sawyer, of G. S. C. W., gave a number of readings.

Dr. T. C. Davison, Atlanta, delivered a most interesting and instructive talk on the history of medicine, after which Dr. J. Edgar Paullin, Atlanta, President of the Medical Association of Georgia, spoke.

After the business session, in charge of Mrs. Tom Ferrell, of Waycross, Third Vice-President of the State Auxiliary, Dr. Edgar Shanks, Atlanta, Secretary-Treasurer of the Medical Association of Georgia, and Dr. Theodore Toepel, Atlanta, made short talks. After a delightful social time was enjoyed, during which the hostess members served tea. Mrs. Alton Johnson and Mrs. Joyce Mixson

poured tea and coffee, assisted by Mrs. Conrad Williams.

Fifth District Meets

An interesting meeting of the Woman's Auxiliary to the Fifth District Medical Society was held at the Academy of Medicine in Atlanta Thursday, October 17, at 6:30 o'clock. A buffet supper was served to members of the Auxiliary and medical society, after which a business session was held.

Mrs. Joseph Yampolsky, Manager, presided over the meeting. Dr. George Fuller, President of the district society, welcomed the guests and introduced Dr. John P. Henry, Memphis, well-known allergist, who made a short talk.

Mrs. J. Bonar White, President of the Woman's Auxiliary to the Southern Medical Association, introduced Dr. Benjamin H. Minchew, President-Elect of the Medical Association of Georgia, who talked on "Monthly Programs for Local Auxiliaries."

Dr. James N. Brawner, Chairman of the Advisory Committee to the Woman's Auxiliary of the Medical Association of Georgia, gave an interesting address on "Some Interesting Facts of Preventive Medicine."

Officers of the Fifth District are Mrs. Yampolsky, Manager; Mrs. H. G. Ansley, of Decatur, Vice-Manager; and Mrs. Charles H. Daniel, of Atlanta, Secretary.

Fulton County Auxiliary

Mrs. Calhoun McDougall, former Second Vice-President of the Woman's Auxiliary to the Fulton County Medical Society, was elected President of the organization at a meeting held Friday, October 4, in Atlanta. Mrs. McDougall succeeds Mrs. Dan Y. Sage, who resigned at the last meeting. Mrs. McDougall was installed and pledged her best efforts to the Auxiliary.

Mrs. Leland Baggett, Treasurer; Mrs. Marion Pruitt, Acting Secretary; and Chairmen of the standing committees gave interesting reports.

At the conclusion of the business session, Dr. T. C. Davison was introduced and gave an excellent discourse on the romance of medicine.

News Deadline

Due to a change in the date on which the press chairmen has to compile her news, chairmen of the local and district auxiliaries are asked to have their reports to her by the twenty-fifth of the month prior to publication. News received at a later date will have to be used in the next issue.

MEDICAL SERVICE BY STATES

To the Editor:

I think you are aware of the fact that some thirty or more high school debating leagues are debating this year the following question:

"RESOLVED: That the several states should enact legislation providing for a system of complete medical service available to all citizens at public expense."

The medical profession throughout the entire country has been most helpful in assisting these schools and debaters in searching authoritative information.

The National Broadcasting Company is providing the facilities of its Red Network for a chain broadcast on this question on Tuesday afternoon, November 12. The following statement gives the essential facts concerning this broadcast:

SPEAKERS:

Affirmative: William Trufont Foster, Director, Pollak Foundation.

Professor Bowey Aly, University of Missouri, Editor of the *Debate Handbook*.

Negative: Dr. Morris Fishbein, Editor, *Journal of the American Medical Association*.

Dr. R. G. Leland, Director, Bureau of Medical Economics, American Medical Association.

TIME—November 12, 2:00 to 3:00 p.m., Eastern Standard Time (1:00 to 2:00 p.m., C. S. T.; 12:00 to 1:00 M.S.T., 11:00 to 12:00, P.S.T.)

STATIONS BROADCASTING—N.B.C. Red Network and affiliated stations.

No doubt many of your members will be interested in hearing this debate as I anticipate there are no two speakers who can present the negative more effectively than Dr. Fishbein and Dr. Leland. Perhaps you can arrange to see that the information reaches all of your members, either through an announcement in your monthly publication or through a special bulletin or post card. We have no information as to the exact list of stations which will handle this broadcast so each person interested should get in touch with the radio stations in his area, urging those affiliated with N.B.C. to carry the broadcast for the benefit of the high school debaters, the medical profession and others interested in this discussion.

If we get definite information later, I shall endeavor to send you a complete list of the stations included in the network on this occasion.

HAROLD INGHAM, N. E. N. A.

Committee on Debate

Materials and Interstate Cooperation
The University of Kansas.

Lawrence, Kansas.

October 8, 1935.

Constant scientific experiment and the accumulation of all facts about a problem, whether they seem of value or not, is the price paid for progress in medical research. Insulin is one of the few great discoveries which was directly sought.—Med. Soc. of the State of N. Y.

GEORGIA DEPARTMENT OF PUBLIC HEALTH

T. F. ABERCROMBIE, M.D., *Director*

TYPHUS FEVER CONTROL

The incidence of typhus fever in Georgia during the year (1935) shows a slight increase over 1934 as indicated by the following table. While the practitioner is principally interested in the medical management of clinical typhus, he should nevertheless be informed as to the mode of transmission of the disease.

TYPHUS INCIDENCE IN GEORGIA BY YEARS

	<i>January to November</i>	<i>Total</i>
1932	248	308
1933	481	625
1934	365	404
1935	378	Data not yet available.

Now that it has been definitely established that the rat is the principal if not, the only animal reservoir of typhus fever in this country, it is obvious that the control of typhus will depend largely upon the elimination of rats, particularly in those places where the disease is occurring.

From both the public health and economic viewpoint these control measures should go beyond this and include elimination of rats wherever they exist. Perhaps some day this may be possible but at the present time it is not economically feasible to do so. Many weapons have been employed by man in his fight against the rat. Chief among these are bait poisoning, trapping, fumigation and rat-proofing buildings.

Trapping and poisoning are effective to some extent but results are only temporary. The two main requirements for the happiness and prosperity of the rat are food supply and shelter. Of these two, shelter, strange to say, is more important than food supply. Shelter includes not only hiding places but protected retreats suitable for breeding. A given building may provide ideal food supply for rats, but if this building is so constructed that there are no enclosed space such as double walls, false ceilings, elevated floors with space underneath, boxed in cabinets, bins or lockers; in other words, no enclosed space where rats can hide and breed, then they will not live in such a building. They may invade such a building in search of food, but once satisfied in this respect they return to such places nearby or far away as will provide suitable conditions for hiding and breeding. Any structure which meets the require-

ments of rat welfare, namely, hiding places and food supply, will always be attractive to rats no matter what other obstacles may present themselves. Trapping and poisoning in such buildings may kill most of the rats or entirely exterminate them. However, as soon as the traps and poisons are removed rats from the surrounding territory will again invade the building and set up a new colony. Fumigation is effective under certain conditions in destroying all rat life. The fumigation of ships has for many years been employed with great success. Highly poisonous gases, such as hydrocyanic acid or nitrous oxide are employed. However, these gases are extremely poisonous for man and other animals, therefore, they are too dangerous for practical application on land. Fumigation also, like trapping and poisoning, is only a temporary expedient.

Rat-proofing of buildings or structures of any kind remains at present the only satisfactory weapon of defense and certainly is the only one possessing any degree of permanent value. The problem of rat proofing involves two phases.

1. Application of rat-proofing principles to new construction.
2. The application of these principles to the remodeling of old construction.

In cases of new construction it is relatively a simple matter to incorporate in the plans rat proofing principles with little or any additional cost. In the case of old construction the question arises whether or not the value of the structure warrants the expense. Space does not permit a detailed discussion of these rat-proofing principles except to say that the one objective to be accomplished is to eliminate closed spaces so that the rats cannot hide and breed. If he keeps this uppermost in mind any builder or carpenter or architect can, by applying a reasonable degree of common sense, accomplish this end.

The question may arise at this point as to the value of rat-proofing any new or old structure which is surrounded by other structures not so protected. Will not the rats be just as much a menace if they are within foraging distance? Insofar as the control of typhus fever is concerned the answer is "No." It must be remembered that it is not the rat but the flea which transmits the disease to man. Fleas do not breed on the body of the rat. Its host is simply a feeding ground. The flea breeds in dust and dirt and any place

where food supply is conveniently near. Therefore, it is obvious that the nesting places of the rat are more apt to fulfil this requirement. It has been shown that before typhus can spread from rat to man the flea population must not be below eight fleas per rat. This is called the flea index. Rats caught in buildings where they breed will show a much higher flea index than those caught outside while foraging. Therefore, even if foraging rats do invade a structure they are not very apt to carry a sufficient number of fleas with them to transmit the disease.

The State Department of Health is anticipating federal grants of funds to be used in a State-wide educational campaign for the purpose of educating the public in regard to typhus fever, its method of transmission, the public health menace of rats and the cardinal principles of rat-proofing. Considerable educational work has already been carried out, particularly in typhus infected cities and in Southwest Georgia where the disease has extended into rural sections as a result of the storage of peanuts.

T. F. SELLERS, M. D.

Chief, Department of Health Laboratories.

BOOK REVIEWS

Food and Beverage Analyses. By Milton A. Bridges. Price \$3.50, pp. 246. Lea and Febiger, Philadelphia, 1935. This handbook will be indispensable to everyone who has an interest in prescribing a diet of known composition. Quite aside from its adequate attention to the newer data for carbohydrate, protein and fat content of foods, one is enabled by the use of simple tables, to regard the diet from the viewpoint of its content of water, cholesterol, iodine, minerals and vitamins. The opportunity is provided, for example, to arrange with ease, a diet low in cholesterol or high in calcium and phosphorus, or low in water content. Analyses are given for most of the commercial trade name cereals, canned goods, and strained foods. Various types of alcoholic beverages and soft drinks are defined, described and their compositions and food values stated. There is a helpful bibliography of the publications devoted to food composition and dietary methods.

HAROLD BOWCOCK, M.D.

Laboratory Methods of the United States Army. Fourth Edition. Edited by James Stevens Simmons, M.D., Major Medical Corps, and Cleon J. Gentzkow, M.D. Contains 1091 pages. Publishers: Lea & Febiger, Washington Square, Philadelphia, Pennsylvania. Price \$6.50. This edition presents many improvements and enlargements over the third edition. It still remains the "laboratory bible" of the United States Army and is written primarily for use by that group. The sections on chemical analysis of various kinds are very well done and complete and the section on the examination of water, milk, sewage, food beverages,

which totals over 100 pages, is extremely valuable to medical men engaged in laboratory activities of a public health nature. The supplement dealing with the Wassermann technic is one of the best available due to the simplicity and accuracy of the test recommended. The work is hardly serviceable, however, for the average civilian pathologist since every emphasis is laid on the fields of bacteriology, entomology and helminthology and not enough material is incorporated on the more practical divisions of clinical pathology as carried out in the average medical practice. For example, in a volume of nearly 1,100 pages only 17 pages are devoted to the entire field of hematology in which the material is of the most elementary type. The work suffers from a lack of illustrations. No doubt it is an excellent manual for the use of the army medical physician and was written with this use in view, but it is not adequate to serve as a laboratory manual for the average practicing physician.

ROY R. KRACKE, M.D.

Pediatric Treatment. By Phillip S. Potter, M.D., Syracuse, N. Y.. Publisher: The Macmillan Company, 60 Fifth Avenue, New York. Price \$5.00.

This pediatric manual has as its aim the presentation of the fundamentals of pediatric treatment for the general practitioner. All treatment outlined in the book is basic in nature and adapted to home methods of caring for pediatric patients.

The book is divided into four divisions, the first of which deals entirely with therapeutic procedures which are usually performed by nurses. This detailed instruction regarding nursing procedure is very good indeed and would be of great value to the young physician just entering practice. It brings out the fact that hospital routine and treatment is entirely different from home practices.

Division two deals with nutrition and this subject is covered very well. Examples of formulae in simple form and diet lists for all ages are included.

Division three deals with treatment of the diseases and abnormalities of the new born and is most complete.

Division four deals with the treatment of disease and takes up each system in order. Actual therapeutic measures are given, including various prescriptions for certain conditions. It is quite natural that in a text of this nature, certain minor points of treatment in certain conditions will be disagreed with, for all of us have our pet methods and drugs.

The book is well arranged, well written and would certainly serve as a valuable adjunct in pediatric reference.

DON F. CATHCART, M.D.

Diseases of the Liver, Gallbladder, Ducts and Pancreas—Their Diagnosis and Treatment. By Samuel Weiss, M.D.; Chapter on Surgery by J. Prescott Grant, M.D.; Chapter on Roentgenology by A. Judson Quimby, M.D. Contains 1099 pages with 358 illustrations and 6 colored plates. Publishers: Paul

B. Hoeber, Inc., 76 Fifth Avenue, New York City. Price \$10.00.

This volume is the clearest, most concise, and most comprehensive book that has been published on diseases of the liver, gallbladder, ducts and pancreas. The author has given a practical work with limited discussion of the essentials of anatomy, embryology, histology and pathology. As he states, physiology is discussed from the point of view of its clinical application in relation to the liver, gallbladder, ducts and pancreas.

Historically, he has briefly sketched the views of the ancient clinicians and their theories. The literature and research work of today has been closely searched and the worth-while contributions have been included.

This is the only volume to be had today which covers the subject so thoroughly, and makes it accessible to the student, practitioner and specialist in an easy, orderly and readable form. It will be a great aid in meeting the every day problems in biliary and pancreatic disease. The clinical information is presented in such a manner that the busy practitioner will be able to make a correct diagnosis and begin a rational treatment without delay. The medical and dietetic treatments given, along with the useful prescriptions and laboratory tests, with their interpretation, make the volume worth much more than its cost.

Dr. Weiss cannot be praised too highly for this contribution to medical literature which represents many hours and months of labor in its compilation, as its bibliography bears testimony to. It is my opinion that no practitioner's, internist's, or surgeon's library is complete without this volume.

W. S. DOROUGH, M.D.

A Textbook of Bacteriology. By Thurman B. Rice, A.M., M.D. Publishers: W. B. Saunders Co., Philadelphia, 1935, pp. 544. \$5.00.

Dr. Rice has succeeded well in his object of writing a shorter text-book on bacteriology that is not too technical for first year students of bacteriology, and practicing physicians.

In an interesting manner the author has covered the real fundamentals necessary in the study of this important subject. He has emphasized the more practical phases of the subject—diagnosis, prognosis, etiology, collection of specimens for the laboratory, interpretation of laboratory findings, treatment, specific therapy, prophylaxis, and sanitary control. Long and theoretical discussions of controversial subjects have been omitted.

Teachers, students, and physicians will welcome this new text-book.

ANGEL ALLEN CAMPBELL.

Treatment of Diabetes Mellitus. By Dr. Elliott P. Joslin, Lea and Febiger, Washington Square, Philadelphia, Pa., 1935. Price \$6.00.

The new edition of Dr. Joslin's book continues to be a classic. It is indispensable to any library. In addition to its scientific and historical value, it is

such intensely reading material that it is difficult to put it aside once it is begun.

WM. WILLIS ANDERSON, M.D.

Diseases of the Nose and Throat. By Charles J. Imperatori, M.D., and Herman J. Burman, M.D. J. B. Lippincott Company, Philadelphia, 1935, pp. 723, illustrations 480. Price \$7.00.

Essentially the course given at the New York Post-Graduate Medical School of Columbia University. The text is complete but in outline form for ready reference. Special detailed descriptions are given of office procedure and treatment technic. Pathology is emphasized. Excellent illustrations and anatomic drawings aid materially in understanding the text. Special chapters are devoted to endoscopic procedure, x-ray, radium and x-ray therapy, laboratory methods and physical therapy.

The authors, long experienced in teaching, give the general practitioner what he wishes to know about nose and throat conditions. The outline form is very attractive in that it enables the reader to get a complete picture of each condition without extensive reading. Many practical points are taken up and the book should prove a valuable aid to anyone doing nose and throat work.

M. T. EDGERTON, M.D.

Gynecology, Fifth Edition. By Brooke M. Anspach, M.D., Prof. Gynecology, Jefferson Medical College. J. B. Lippincott, Publishers.

The fifth edition of Gynecology, by Brooke M. Anspach, M.D., with the assistance of Dr. Phillip F. Williams, Assistant Professor of Obstetrics, School of Medicine, University of Pennsylvania, and Dr. Lewis C. Scheffey, Assistant Professor of Gynecology, Jefferson Medical College, and many other outstanding men collaborating on various subjects is a most systematically written and well illustrated text-book.

Beginning with the embryologic development of the female reproductive system and allied organs, to the final chapter on vaccine therapy this fifth edition has been carefully and thoughtfully edited. The logical plan of studying various organs and the discussion of the etiology, pathology, symptoms, diagnosis, and treatment of various diseases is carried out through the entire text. The chapters on radiation and treatment in certain gynecological diseases is very pertinent to the subject. His other chapters on constitutional types of sterility, dysmenorrhea, amenorrhea and various endocrine disorders are most up-to-date. I think that the chapters on backache, especially from a gynecological viewpoint, are most interesting and of great value.

This is an excellent book for the practicing physician as a reference, and as a text-book for the medical student. The illustrations, both drawings and photographs, are clear and neat, illustrating operations and various pathologic lesions necessary for a text-book.

J. HARRY ROGERS, M.D.

NEWS ITEMS

The Thomas County Medical Society met at the John D. Archbold Memorial Hospital, Thomasville, September 18, 1935. Dr. Arthur D. Little, Thomasville, read the second article of a number of papers he has written on *Hysterectomies in the John D. Archbold Memorial Hospital*; Dr. C. H. Ferguson, Thomasville, read a paper entitled *The Therapeutic Use of Muscle Tissue Extract*. The members of the Society and visitors were entertained at dinner by the Hospital.

Dr. Frank M. Ridley, Jr., LaGrange, has been appointed by Governor Talmadge to the State Board of Medical Examiners for a term of four years to succeed Dr. B. T. Wise, Americus. Other members appointed to succeed themselves were: Dr. Jas. M. Baird, Columbus; and Dr. Jesse L. Howell, Atlanta.

Dr. E. A. Moody, formerly of Odum, has moved to Nahunta and will continue the practice of medicine at the latter location.

The Clinical Society of the New York Polyclinic Medical School and Hospital, New York City, met on October 7th. Dr. Edmund Horgan and Dr. James Alexander Lyon, Georgetown University, Washington, D. C., presented a paper entitled *The Inhibiting of Thyroid Activity to Control Heart Disease*; discussed by Dr. Richard Lewisohn and Dr. Robert Emery Brennan. Dr. Albert S. Hyman, Witkin Foundation, New York City, paper on *Trans thoracic Electrocardiography; the Theory and Clinical Application of the New Electrocardiographic Methods*; discussed by Dr. Louis F. Bishop, Jr., Joseph B. Wolffe and Dr. Harold E. B. Pardee. The members of the Clinical and Surgical Association of Massachusetts were guests of the New York Polyclinic Medical School and Hospital, October 8th and 9th. The members of this Society visit medical schools each year and this year went to the New York Polyclinic Hospital to be present for the special program.

The Southeastern Branch Society of the American Urological Association extends an invitation to the physicians of the Southeast to attend the meeting of the Society to be held at Noel Hotel, Nashville, Tennessee, on December 6-7.

A meeting of the Georgia Section of the Southeastern Surgical Congress was held at Dr. Stewart D. Brown's hospital, Royston, on October 16th. Titles of papers on the scientific program were as follow: *The Value of the Clinical Conference to the Members of the Medical Profession*, Dr. B. T. Beasley, Atlanta. *Surgical Treatment of Pulmonary Tuberculosis—Clinic*, Dr. C. D. Whelchel, Gainesville; discussed by Dr. Ben Hill Clifton, Atlanta. *Traumatic Brain Injuries—Clinic*, Dr. J. Calvin Weaver, Atlanta; discussed by Dr. G. Hugh Cochran, Atlanta. *Chronic Cholecystitis—Clinic*, Dr. H. M. Fullilove, Athens; discussed by Dr. H. W. Birdsong, Athens. *Toxic Goiter—Clinic*, Dr. T. C. Davison, Atlanta; dis-

cussed by Dr. D. Henry Poer, Atlanta. *Management of Cross Eyes in Children—Clinic*, Dr. Thos. R. Gaines, Anderson, S. C.; discussed by Dr. Grady Clay, Atlanta. *Fractures—Clinic*, Dr. Thos. P. Goodwyn, Atlanta; discussed by Dr. J. K. Burns, Gainesville. *Acute Intestinal Obstruction—Clinic*, Dr. Grady N. Coker, Canton. *Ureteral Stone with Pyo-Hydronephrosis—Clinic*, Dr. Earl Floyd, Atlanta; discussed by Dr. M. A. Hubert, Athens. *Pelvic Inflammatory Disease in the Female*, Dr. Walter R. Holmes, Atlanta; discussed by Dr. Kenneth S. Hunt, Griffin.

The Georgia Pediatric Society will hold its next scientific meetings at the Biltmore Hotel and Academy of Medicine, Atlanta, on Thursday, December 12th. Dutch luncheon will be served at the Biltmore Hotel at 12:45 P.M. The scientific program at the Biltmore Hotel will begin at 2:00 P.M., the evening program will begin at the Academy of Medicine, 38 Prescott Street, N.E., at 7:00 P.M. Titles of addresses and names of speakers follow: *The Progress of Infant Feeding and A Child's Heart in Avitaminosis*, by Dr. Isaac A. Abt, Chicago. *The Medicinal Fish Oils and The Multiple Nature of Vitamin D*, by Dr. Charles E. Bills. *Infection, Immunity and Vaccination in Anterior Poliomyelitis*, by Dr. John A. Kolmer, Philadelphia. *The Thymus Delusions and Diagnosis and Prognosis in Pediatrics*, by Dr. John L. Morse, Boston.

The Georgia Medical Society, Savannah, held its regular meeting on October 22nd. Dr. Wm. H. Myers read a paper entitled *Renal Calculi*; discussion was led by Dr. L. W. Shaw. Dr. Charles Usher discussed his *Recent Observations at the Mayo Clinic*, Rochester, Minn.

The Spalding County Medical Society met at the Strickland Memorial Hospital, Griffin, on October 15th. Dr. J. L. Pittman, Atlanta, spoke on *Kidney Stones*. Members of the Society gave unusual case reports.

The staff meeting of St. Joseph's Infirmary, Atlanta, was held on October 22nd. Cases reported were: *Thyroidectomy with Tetany*, Dr. C. C. Aven. Dr. Ben Hill Clifton and Dr. Wm. A. Smith; discussed by Dr. E. A. Bancker, Jr. *Chronic Mastoiditis with Operation*, Dr. H. C. Crawford and Dr. B. Russell Burke; discussed by Dr. Wm. L. McDougall. *Tetanus*, Dr. Wm. T. Bivings, Sr., and Dr. Wm. T. Bivings, Jr.

Dr. A. R. Rozar, Macon, attended the annual meeting of the American College of Surgeons held at San Francisco, California, October 28-November 1.

The United States Civil Service Commission, Washington, D. C., announces open competitive examinations for Public Health Consultants. The entrance salaries range from \$2,600.00 to \$4,600.00 a year. Applications must be on file in Washington not later than November 25, 1935. The Commission also

announces open competitive examinations for Social Economists. Entrance salaries to range from \$2,600.00 to \$4,600.000 a year. Applications must be on file in Washington not later than November 18, 1935.

The Baldwin County Medical Society met at the Milledgeville State Hospital, Milledgeville, on October 22nd. Dr. John W. Oden was host to the members and visitors. Atlanta doctors present were: Dr. Jas. E. Paullin, President of the Association; Dr. Edgar D. Shanks, Secretary-Treasurer of the Association; Dr. Leo P. Daly, Dr. J. C. Massee, and Dr. W. W. Young.

Dr. John A. Simpson announces the opening of an office in the Southern Mutual Building, Athens, for the practice of pediatrics.

Dr. W. W. Sharpe, III, formerly of Ware Shoals, S. C., has opened offices in the Central Pharmacy, Alma, for the practice of medicine.

Dr. Robert B. Crichton announces the removal of his offices to Apartment 2, 434 Broad Street, Augusta. His practice will be limited to obstetrics.

Dr. William K. Jordan, formerly of Macon, has moved to Milledgeville and will be associated in the practice of medicine with Dr. W. M. Scott.

Dr. Fred A. Mettler, Assistant Professor of Anatomy, University of Georgia School of Medicine, Augusta, read a paper before the October meeting of the Dugas Journal Club entitled, *Cortical Influence on Vegetative Processes*.

Dr. J. C. Harris, formerly of Lilly, has moved to Oakfield and will continue the practice of medicine at the latter location.

Dr. Carl S. Pittman, Tifton, spoke at a public meeting on *Cancer Control*. The lecture was illustrated by charts showing many important features of early cancer. The audience was favorably impressed.

Dr. Chas. H. Watt, Thomasville, member of the Cancer Commission from the Second District, returned recently from the Mayo Clinic, Rochester, Minnesota, where he took post-graduate work. Before going to Rochester, he wrote the Secretary-Treasurer of each county society in the Second District urging a campaign for cancer control. He outlined the advantages of radio talks, distribution of literature, public meetings and especially the discussion of early diagnosis and prompt treatment at scientific meetings.

The Georgia Association of Pathologists was organized October 29, 1935. Dr. E. L. Bishop, Atlanta, Pathologist for Steiner Clinic, was elected President; Dr. Roy R. Kracke, Emory University, Professor of Pathology and Bacteriology of Emory University School of Medicine, Vice-President; Dr. T. F. Sellers, Atlanta, Chief of Laboratories, State Depart-

ment of Public Health, Secretary. The headquarters of the organization will be in Atlanta. The names of charter members follow: Dr. A. J. Ayers, Dr. Richard Mestre, Dr. Roy R. Kracke, Dr. R. S. Leadingham, Dr. Geo. F. Klugh, Dr. E. L. Bishop, Dr. F. P. Parker, and Dr. T. F. Sellers, all of Atlanta; Dr. E. R. Pund, Augusta; Dr. V. H. Bassett and Dr. Lee Howard, both of Savannah; Dr. R. V. Lamar, Milledgeville; and Dr. Mary J. Erickson, Thomasville. The first meeting of the Association was held at the home of Dr. E. L. Bishop, 1024 Williams Mill Road, Atlanta.

The members of the Ware County Medical Society were entertained in the home of Dr. and Mrs. J. E. Penland, Waycross, by Dr. Penland and Dr. W. D. Mixson to a turkey dinner on November 6th. Dr. W. F. Reavis read a paper entitled *Cancer in the Lower Urogenital Tract*.

Dr. B. L. Shackleford and Dr. Jesse H. York, both of Atlanta, were elected to fellowship in the American College of Surgeons and attended the recent annual session held in San Francisco.

The Georgia Urological Association held its fall meeting at Albany on October 24th. Members on the scientific program were: Dr. Rudolph Bell, Thomasville; Dr. J. C. Keaton, Albany; Dr. William Shearouse, Savannah; Dr. Montague Boyd, Dr. Steven T. Brown, Dr. E. G. Ballenger, Dr. Major Fowler, Dr. Samuel J. Sinkoe, and Dr. T. R. Staton, all of Atlanta; and Dr. Willis P. Jordan, Columbus.

Dr. L. B. Dunn and Dr. M. J. Egan, both of Savannah, have just returned from Boston. They took post-graduate work in surgery at the Massachusetts General Hospital.

Dr. R. G. Brown, formerly of Garfield, announces his removal to Waycross and will be associated on the staff of the Ware County Hospital.

The Randolph County Medical Society met at the Patterson Hospital, Cuthbert, on November 7th.

Dr. Samuel Kahn, Atlanta, recently visited clinics in New York City.

The Southern Medical Association will hold its twenty-ninth annual meeting in St. Louis, Missouri, November 19, 20, 21, 22, 1935.

The December dramatized radio health program by the Bureau of Health and Public Instruction of the American Medical Association, which will be broadcast on each Tuesday afternoon at 5:00 P.M. E. S. T., and at 4:00 P.M., C. S. T., will have for its subjects and speakers the following: December 3rd, Dr. Morris Fishbein, *Tuberculosis*; December 10th, Dr. Morris Fishbein, *Hunting Accidents*; December 17th, Dr. W. W. Bauer, *Animal Diseases in Man*; December

24th, Dr. W. W. Bauer, *Eat, Drink and Be Merry*; December 31st, Dr. W. W. Bauer, *Pneumonia*. Dr. Fishbein is Editor of the Journal of the A. M. A., and Dr. Bauer is Director of the Bureau of Health and Public Instruction of the A. M. A.

Dr. Thomas G. Hull, Director of the Scientific Exhibit, announces that: "The Scientific Exhibit at the Kansas City Session of the American Medical Association will be held in the Municipal Auditorium in conjunction with the other activities of the Association, May 11-15, 1935. All applicants for space in the Scientific Exhibit must fill out the regular application blank. The exhibit will cover a wide variety of subjects, including the basic medical sciences as well as the various specialties in medicine. The various sections of the Scientific Assembly have appointed section representatives, who will correlate the section exhibits, as far as possible, with the papers read at the section sessions. Applications for the Scientific Exhibit close on January 27, 1936. Assignments of space will be made about February 24, 1936." Other information may be obtained from Dr. Hull.

OBITUARY

Dr. Marion X. Corbin, Savannah; New York University Medical College, New York City, 1891; aged 69; died at his home Beaulieu following a long illness on September 29, 1935. He was born in Suffolk, Virginia. After he graduated in medicine and served as an intern at Brooklyn, N. Y., he began the practice of medicine in Savannah in 1893. Dr. Corbin was an active and successful practitioner until ill health forced him to retire. He was a Mason and Shriner. Surviving him are his widow, one son, G. L. Corbin, Savannah; two daughters, Mrs. Carl I. Aslakson, Washington, D. C., and Mrs. Albert S. Lawton, Jacksonville, Fla. Funeral services were conducted at the graveside by Rev. F. F. Reese. Burial was in Bonaventure cemetery.

Dr. Robert M. Kuglar, Conley; Georgia College of Eclectic Medicine and Surgery, Atlanta, 1905; aged 76; died at his home on October 8, 1935. Surviving him are his widow, one daughter, Mrs. H. L. Myers; four sons, C. M., Harold, M. D., and P. R. Kuglar. Funeral services were conducted from the Forest Park Baptist Church. Interment was in the churchyard.

Dr. John A. Campbell, Nahunta; member; Medical College of the State of South Carolina, Charleston, S. C., 1911; aged 51; died in a private hospital at Waycross on September 20, 1935. He was a native of South Carolina and removed to Georgia about twenty years ago. Dr. Campbell had been prominently associated in the affairs of Nahunta and Brantley county for a number of years. He operated a drug store and was a successful practicing physician. Dr. Campbell was a member of the Ware County Medical Society and the Baptist church. Surviving him are his widow, two daughters: Miss Christine Campbell and Miss Dorothy Campbell, both of Nahunta. Funeral

services were conducted at the graveside by Rev. A. J. Harper of Jesup. Interment was in the Hickox cemetery. Members of the Ware County Medical Society formed an honorary escort.

Dr. William Collins Pumpelly, Macon; former member; College of Physicians and Surgeons, Baltimore, Md., 1903; aged 58; died in West Palm Beach, Florida, September 18, 1935. He was a native of Candor, New York. Dr. Pumpelly had just graduated in pharmacy at the beginning of the Spanish-American War and promptly enlisted in the U. S. Navy. After receiving an honorable discharge, he began the study of medicine. Dr. Pumpelly was a member of the staff of the Milledgeville State Hospital for two years after he received his M.D. degree, then instructor in pharmacy at Mercer University, Macon, for two years; then entered private practice. He was the founder of the Clinic Hospital at Macon. Dr. Pumpelly was an active practitioner and bore an excellent reputation as a diagnostician. Surviving him are his widow, one son, and one daughter. Burial was in the cemetery at Candor, N. Y.

DIPHTHERIA IMMUNIZATION

Diphtheria Immunization of Allergic and Non-Allergic Individuals by Intracutaneous Injection of Alum-precipitated Toxoid. Richard A. Kern, Jean Crump, Thomas Cope, Philadelphia, Pa. From the Journal of Allergy, September, 1935, pp. 525-531.

Certain individuals suffer severe constitutional reactions from subcutaneous injections of toxin antitoxin, toxoid, or alum-precipitated toxoid for the production of an active immunity against diphtheria. These reactions occur more frequently in allergic individuals. The first injection fails to produce an adequate immunity and a negative Schick test, and parents are loath to have other injections following the reaction.

The authors conceived the idea of using alum-precipitated toxoid for intracutaneous injection. This toxoid contains no animal serum that might produce hypersensitiveness or shock the hypersensitive patient. It is absorbed very slowly, and therefore is not apt to produce reactions, but subcutaneous injections of this does at times produce a generalized reaction. On this account, the intracutaneous injection of the antigen was tried. Non-allergic and allergic individuals were injected, affecting the results of the Schick test when the alum-precipitated toxoid was given subcutaneous and intracutaneously. The dose subcutaneously was 1 cc. and intracutaneously, 0.1 cc. Marked reactions, both local and general, in adults occurred more than three times oftener after subcutaneous injections than after intracutaneous injections. Fewer reactions occurred in children than in adults.

The authors conclude that a single intracutaneous injection of alum-precipitated toxoid is as successful as a subcutaneous injection in producing active immunity against diphtheria, using only 0.1 cc. for the intracutaneous injection instead of the 1 cc. needed for the subcutaneous dose, and that the intracutaneous

injection of toxoid is much less likely to produce unfavorable reactions, both local and general, than is the subcutaneous method.

Abstract of article from the *Journal of Allergy* by Hal M. Davison, M.D., Atlanta.

AMERICAN STUDENTS IN ITALIAN SCHOOLS

Dr. Harold Rypins, Albany, N. Y., chairman of a committee on foreign medical students representing the Council on Medical Education and Hospitals of the American Medical Association, the Association of American Medical Colleges, the Federation of State Medical Boards of the United States, the National Board of Medical Examiners, and the Board of Regents of the University of the State of New York, issues a warning to American students who go to Italy to study medicine without approval from authorities in this country. The Royal Italian Consul General has informed Dr. Rypins that several students have gone to Italy in the past year without approval and have been refused admission to Italian schools, in accordance with an agreement entered into Aug. 3, 1933, by Dr. Harold Rypins, representing the New York State Board of Medical Examiners and the Federation of State Medical Boards (*THE BULLETIN*, November, 1933, p. 340; January, 1934, p. 10). Some of the applicants had only high school diplomas. Prospective students are therefore warned not to go to Italy in expectation of studying medicine without obtaining authorization from the Italian consul general.

THE USE OF DILAUDID IN TREATING PATIENTS WITH CANCER

Abstract

"There is a definite place for the use of Dilaudid in the armamentarium available for the treatment of pain in cancer patients, but it must be used with the same caution as the other opiates" according to Nathanson and Daland, of the Pondville Hospital (New Eng. J. of Med. 213:741, (Oct. 17, 1935). Dilaudid was administered in various dosages, forms, and combinations to 115 patients with malignant disease, and to 15 surgical cases. It was found, by these observers, to be an efficient analgesic in doses approximately one-fifth those of morphine, acting about twice as fast as the other opiates with a duration of action and degree of relief comparing favorably with that of morphine. In therapeutic doses, it was not usually hypnotic, and in many instances required the addition of a barbiturate to obtain sleep. "This weaker hypnotic effect is of definite benefit to the ambulatory patient, as it gives him the opportunity to be up and around and aware of his surroundings." A combination of Dilaudid in the small dose of grains 1/48 with aspirin grains 10 proved to be an efficient analgesic for patients with moderate pain. The effect on the gastro-intestinal tract as regards side-reactions was less than with morphine. It is an efficient reliever of cough. When other opiates had been given for several weeks before Dilaudid, it was not as

efficient in equivalent doses. Tolerance, although it is believed to develop, was not so marked or rapid as with morphine. Itching and respiratory depression seemed more prominent, but in general it was less likely to produce undesirable side-effects than morphine. Small doses given at frequent intervals were found superior to large doses given at less frequent intervals, although the total twenty-four hour amount may have been approximately the same.

LILLY ADDS SPECTROPHOTOMETRIC EQUIPMENT

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The Kidney in Health and Disease in Contributions by Eminent Authorities. Edited by Hilding Berglund, M.D., Stockholm, Sweden, Formerly Chief of the Department of Medicine at the University of Minnesota, and Grace Medes, Ph.D., Research Biochemist in the Lankenau Hospital Research Institute, Philadelphia, Pennsylvania; with the collaboration of G. Carl Huber, M.D., Warfield T. Longcope, M.D., and Alfred N. Richards, M.D. Contains 754 pages with 163 engravings. Publishers: Lea & Febiger, Washington Square, Philadelphia, Pennsylvania. Price \$10.00.

The Range of Human Capacities, by David Wechsler, Ph.D., Chief Psychologist, Psychiatric Division, Bellevue Hospital, New York City. Contains 159 pages. Publishers: The Williams & Wilkins Company, Mount Royal and Guilford Avenues, Baltimore, Maryland. Price \$2.50.

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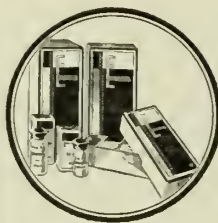
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Volume XXIV

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HEREDITARY CLEIDOCRANIAL DYSOSTOSIS

*Report of Two Cases**

JOSEPH C. MASSEE, M.D.

Atlanta

This is a condition of definitely hereditary and familial tendencies. Both sexes are about equally affected. The defect may be transmitted by either father or mother, and it may involve several generations. Isolated cases have been reported.

The clavicle is the first bone to ossify in the human skeleton, a center appearing in the fifth embryonic week. The outer part ossifies in membrane before the inner part, which ossifies in cartilage. In cleidocranial dysostosis there is a congenital defect in the ossification of the clavicles which may range from a break in continuity, simulating an ununited fracture, to a complete absence of both bones.

Associated with the clavicular defect are abnormalities of the cranial and facial bones, most of which also ossify from membrane. The frontal and parietal bosses are prominent, the girth of the head usually larger than normal, the fontanelles are large and the sutures and anterior fontanelle may remain open. The facial bones are relatively small, the face being characteristically wedge-shaped, the bridge of the nose sunken, the palate high and narrow, the lower jaw prognathous. The teeth erupt late and are irregular and incomplete in setting and development.

Many associated defects of the skeleton have been described. The phalanges are

shorter than normal, the thumb especially being short. There may be spina bifida, defects in the ribs, coccyx, scapulae or other bones.

Cases have been described with associated abnormalities of the central nervous system. Stewart¹ reported a demented female with slight spastic paralysis of the lower limbs associated with cleidocranial dysostosis. Autopsy showed old inflammatory lesions of the brain, extremely small frontal lobes and other structural anomalies. Another case reported by Leri and Tretiakoff² showed inflammatory and hemorrhagic lesions of the brain. Marie and Sainton's³ case showed syringomyelia with cavities the size of pigeon eggs in each frontal lobe. McCurdy and Baer⁴ reported a mentally deficient Negro with congenitally defective clavicles.

Slight and moderate disorders of thyroid function, particularly hypothyroidism, seem rather frequent.

In appearance these patients are usually short and below normal stature. No disability is caused by the defect, but the shoulders can be made to meet beneath the chin anteriorly.

The etiology of the condition is unknown. Tatum⁵ has recently shown that in a series of six children, the blood calcium was normal but the blood phosphorous was decreased. In her series of five adults, both blood calcium and phosphorous were normal.

Case I—White female, aged 15, chief complaint, nervousness since four years of age, and epileptic fits since removal of tonsils and adenoids in June, 1934.

Present Illness: For more than a year she has been subject to epileptic fits which she says are preceded by feeling as though the top of her head were coming off. The attacks occur in varying frequency, sometimes once or twice a day, sometimes once a week.

*From the Good Samaritan Clinic, Atlanta.

Past History: Birth weight six pounds at term. She had measles, whooping cough, tonsillitis, chicken-pox in early childhood and had chorea last summer. Her menses began at thirteen years. There was severe pain, but normal flow. Periods are now regular and without pain. Tonsils and adenoids were removed a year and a half ago. The left arm was broken three years ago. She was told that she had no clavicles.

Family History: Patient's father, aged 40, is living and well. Her mother, aged 37, is living and well but has the same absence of clavicles that the patient has. Her maternal grandmother is living and well, aged 62; she also is said to have no clavicles. One sister living and well, aged 12; one sister died of pneumonia at 11 months; twin brothers, born at seven months, died within two days after birth.

Physical Examination: Weight 93 1-4 pounds (average for height 92 pounds; for age 111 pounds); height 59 inches; length of torso 28 1-4 inches; length from pubis to heels 30 3-4 inches; span 57 3-4 inches; circumference of head 20 inches. Hair fine, moist, light brown. Skin negative; neck negative. The shoulders are sloping and there is an absence of both clavicles except for a small median cartilaginous portion on each side. Glands negative; eyes negative. Mouth survey shows deciduous teeth still present, permanent teeth present but unerupted. Palate normal; heart, lungs, and abdomen normal. Back and limbs negative. Body hair normal except for excess on lower legs. Breasts normal. Pelvic survey shows external genitalia negative, hymen intact. Rectal examination shows uterus slightly subnormal in size, freely movable. There were no masses in the adnexa.

Psychological Test: Mental age 8 years and 9 months; intelligence quotient 56; classification, high grade moron; probable mental development, 9 years.

Laboratory Report

<i>Blood:</i>	White cell count.....	8,350
	Red cell count.....	4,500,000
	Hemoglobin.....	72% 11.6 gm. (Dare)
	Color index.....	.8
	Schilling's differential:	
	P. M. N.	63
	Bands	12
	Segmenters	51
	Lymphocytes	32
	Monocytes	5

Blood Chemistry

Sugar	100.0 mg. per 100 cc.
N. P. N.	26.0 mg. per 100 cc.
Calcium	10.4 mg. per 100 cc.
Phosphorous	3.8 mg. per 100 cc.

Blood Wassermann: Reaction. negative.

Urinalysis:

Turbidity	slightly cloudy
Color	amber

Spec. grav.	1.010
Reaction	acid
Sugar	negative
Albumin	negative
Microscopical:	Few squamous epithelial and pus cells per L. P. F. cent.

Basal Metabolism: Minus 14%, pulse 68.

Feces: Negative for ova of hookworm or other intestinal parasites.

X-Rays: In lateral view of skull, sella turcica appeared normal;

Bone age in hands, wrists and knees was apparently normal;

Clavicles were absent on both sides;

Unerrupted permanent teeth with deciduous teeth present in jaws.

Case II—A married white female, aged 37, the mother of the patient in Case I, is apparently normal except for complete absence of clavicles. She has no inconvenience from this. She states that her mother, the grandmother of the patient in Case I, also has no clavicles but the old lady would not come to the clinic to be examined.

Comment: The cases here mentioned are atypical of true cleidocranial dysostosis in that the skull bones are not enlarged. Case I is interesting in that the delay in eruption of permanent teeth seems to be associated with a thyroid deficiency. Since receiving thyroid medication the deciduous teeth have begun to loosen, apparently being accelerated in their development by the administration of the drug.

The exact nature of the pathology underlying the epilepsy and mental impairment is not clear. However, she will be continued on thyroid medication in an attempt to improve her mental as well as dental development. It should be noted too that her blood phosphorous is also below normal for a child.

Summary

1. Two cases, a child and her mother, of hereditary cleidocranial dysostosis are presented.
2. Although the defect is said to be present in a third generation in this family, the patient was not examined.
3. Associated defects of retarded mental development and epilepsy as well as hypothyroidism and lowered blood phosphorous are noted in Case I.

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415 Doctors Building.

CAROTID BODY TUMOR*

Report of Case

SAM BROCK,† M.D.

I. PILOT,† M.D.

Augusta

The purpose of reporting this case of carotid body tumor is two-fold: First, in order to call attention to the consideration of carotid body tumor in the differential diagnosis of any obscure tumor occurring in the anterior cervical triangle, and second, in order to emphasize the importance of early treatment. Approximately 20 per cent of carotid body tumors are malignant.^{2 8 10 11} It has been claimed that no operator has had more than three cases of carotid body tumor.²

In 1931, Rankin and Wellbrock⁹ found 196 cases, including their own, reported in the literature. Since their report, we have found 12 additional cases recorded, including our own, a total of 208 cases.

Report of Case

History: (Edgewater Hospital Case No. 11185) A retired fireman, aged 60, came under our observation Oct. 8, 1932, complaining of a tumor of the left side of the neck. His general health had always been good.

He had noticed the presence of a small nodule about five months previously, which had gradually become the size of a hen's egg. There had been no pain, but he had noted tenderness recently. Hoarseness, dyspnea, vertigo and faintness, slight blurring of the vision and a constant frontal headache had been present for the past six weeks. He had had a brassy cough for a year. He had lost about ten pounds of weight.

Physical Examination revealed a well-developed and fairly well nourished white man. He appeared normal. His voice was hoarse. A glass of water was drunk with

difficulty and brought on a paroxysm of coughing, similar to that caused by injury to the recurrent nerve. There was a firm, smooth ovoid tumor, about 7 cm. in diameter in the left upper anterior cervical triangle. The tumor was movable laterally, but not upward or downward. The skin over the mass was unchanged. Slight tenderness on palpation was elicited. There were no pulsations, bruit or thrill present over the tumor.

X-ray of the chest, blood Wassermann, urinalysis, etc., were negative.

Exploratory Operation: The patient gave his consent to biopsy, and on Oct. 10, 1932, a left cervical block was done and an incision beginning at the tip of the left mastoid process and extending along the anterior border of the sternomastoid muscle to the sternoclavicular joint was carried out. The tumor was somewhat adherent to the sternomastoid muscle at its middle third, so that it was necessary to divide its fibers. The tumor was closely connected with the common carotid artery, which entered the mass. Both external and internal carotids showed no evidence of pulsation, so the common carotid was clamped, severed and ligated. The tumor was then extirpated without much difficulty. The internal jugular vein was torn slightly, but the pneumogastric nerve was not involved and was not injured. The tumor was encapsulated and measured 6 by 5 by 6 cm., and showed no evidence of extension.

Postoperative Course: Except for a temporary partial right sided hemiplegia, which cleared up within a week, the postoperative convalescence was uneventful. The voice changed and cough gradually cleared up.

Diagnosis: The consensus of opinion is that carotid body tumors are rarely diagnosed preoperatively^{8 9}. In 1906 Keen and Funk established certain positive and negative facts⁷. Greene⁸ has shown, however, that there are no pathognomonic criteria for the diagnosis of carotid body tumor. The location of the tumor, fixation by the carotid vessels, preventing displacement or down and the presence of transmitted pulsations may apply to branchiogenetic cyst as well. The differential diagnosis considers such possible lesions as simple adenitis, tuberculous adenitis, metastatic carcinoma or sarcoma, Hodgkin's disease, parotid and submaxillary gland tumors, aberrant thyroid, parathyroid gland tumor, aneurysm of the common carotid, branchiogenetic cyst, lymphosarcoma, dermoid cyst, gumma, fibroma, lipoma, etc.

Treatment: The consensus of opinion is that the proper treatment is surgical. Bevan and McCarthy² hold that surgery is contraindicated "when it is necessary to ligate the carotid arteries in order to complete the operation." Thirty per cent mortality² should certainly make the surgeon hesitate when he considers ligation of the common carotid artery. It would appear, however, that no operator could hold to any hard and fast rule as to the management of any given case. The case itself should determine the procedure instituted. The tumor may be resected without damage to the internal or common carotid arteries^{8 11}. In

*Read before the Medical Association of Georgia, Atlanta, May 9, 1935.

†Present address, Chicago.



FIGURE 1
Gross Specimen of Carotid Body Tumor. Note Wire in
Constricted Artery

those cases in which slow obliteration of the carotid vessels has occurred, due to the occluding action of the growth, and sufficient time has permitted adequate collateral circulation to have become established, we believe that extirpation of the tumor will not cause 30 per cent mortality. X-ray therapy would probably offer little in the far advanced case of malignancy.

Microscopic Report (Hematoxylin and eosin preparation): Fairly cellular tissue composed of fasciculi of large, clear cells in a fibrous stroma predominates. There are many areas as of degeneration composed of amorphous hyaline material. Blood vessels and lymph spaces appear quite numerous. The cellular masses form anastomosing, infiltrating, irregularly arranged cords. Basal cells appear round, others polygonal and those in the center are larger and almost squamous in appearance with a tendency to whirl. The cytoplasm is clear and abundant. The nuclei are vesicular, variable in size, round or oval, hyperchromatic in places, with occasional nucleoli and mitotic figures. They are occasional multinucleated, syncytial-like masses composed of two to five irregular nuclei, in a pink hyaline-like cytoplasm. The cell masses are associated with lymph spaces which encircle cells as irregular, narrow spaces lined by endothelium. In places, the stroma forms interlacing bands and bundles like that of neurofibrillar tissue. The appearance is that of malignant growth from the carotid body.

Result: This patient died three months following extirpation of the growth. He developed symptoms of brain tumor and the supposition was that he had metastasis to the brain, possibly even at the time of operation. We regret that we could not obtain permission for necropsy.

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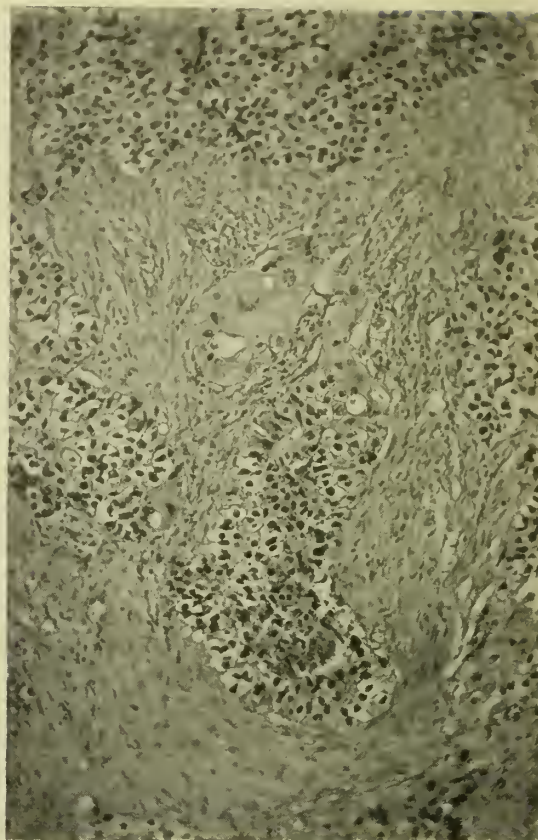


FIGURE 2
Microphotograph of Carotid Body Tumor.

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Discussion on Paper by Drs. Sam Brock and I. Pilot

DR. EVERETT L. BISHOP (Atlanta): These tumors are extremely interesting because of their rare occurrence, the frequency with which they may be confused with other tumors of the neck, and also because their histology is by no means characteristic.

They are frequently mistaken, as Dr. Brock has pointed out, for tumors of the lymphoid group, certain benign conditions and branchial cleft tumors, so that, due to its rareness, one seldom thinks of a carotid body tumor.

These patients usually give a history of fairly long duration. In most cases the tumor began about the time of puberty with a very slow growth for a varying period of years.

The tumors are usually painless, although a few have been reported with pain. Practically all of them have been unilateral. I know of only two cases in which they were bilateral. Dr. W. P. Nicolson, Sr.,

of this city, a number of years ago had a bilateral case, and more recently Rankin another.

The location of the tumor is characteristic in the majority of cases, occurring in the region of the bifurcation of the carotid artery. The artery may be obstructed by the mass, as Dr. Brock showed, and the tumor moves laterally, but not up and down.

The tumor has been described as a potato tumor, due to the general appearance of the tumor in the gross state. They are practically always well encapsulated, although as it grows this capsule may become perforated and, should the tumor become malignant, the neighboring nodes become involved. I do not think generalized metastasis has been reported in any case.

The cut surface of the tumor presents many various features. Chief among these is the distinct reddish color, due to the extreme vascularity. In these tumors the vascularity is markedly increased, with large dilated blood vessels, all filled with circulating blood. The tumor is friable, easily breaks, and it crumbles in the forceps. There may be large areas of a white semi-translucent appearing tissue, hyalinization, which is very common as the tumors get older, and also there may be areas of distinct connective tissue formation, with traces of calcification.

The microscopic appearance has been described in the terms of angioma, endothelioma, perithelioma, sarcoma, etc. One must realize that the microscopic appearance varies greatly in various portions of the tumor. Some areas are fibrous, some are hyaline, and some of them show a distinct perivascular arrangement of the cells, giving the appearance of perithelioma. It has been said this is the only true type of perithelial tumor. Many other tumors will show a perivascular arrangement of the cells, but it is simply a selection of hypernutrition cells surrounding the vessel, whereas in the carotid body tumor these cells seem to be actually growing out from the cells around the vessel wall.

There is also the presence of pigmented cells. The gland belongs to the chromaffin system, and we find cells which react to the chrome salts, so that pigmented cells are frequently found.

Degenerative changes take place quickly, and it is only on prompt fixation that these changes are prevented.

Dr. Brock mentioned the question of radiation. There is nothing in the histologic structure to indicate that they are radiosensitive, so I think all agree that surgery is the proper treatment.

In closing I should like to report two cases of this type of tumor from the Steiner Clinic. The first was a male, aged 26, first seen in September, 1927. He dated the swelling in his neck from an attack of mumps in 1914, 13 years previously. The mass had grown slowly and he said at times it seemed to regress. He was operated on April 30, 1928, and a mass 8.5 cm. was removed. The tumor has not recurred, and he was entirely well on April 20, 1935. That was seven years following the operation. Following his operation he developed a disturbance of the right pupil

and some disturbance of voice, both of which conditions cleared up.

The other case is a female, aged 35 years, first seen April 7 of last year, and she dated her trouble to the crowning of a tooth in 1928. She said this mass developed following that, and slowly enlarged. The tooth was extracted nine months before but the tumor persisted. She also developed visual disturbance following the operation, and this has cleared up. This case is too recent for a further report. (Slides of these two cases shown).

I appreciate very much the opportunity of discussing Dr. Brock's paper.

DR. SAM BROCK (Augusta): I wish to thank Dr. Bishop for his able discussion of this case. I am glad to hear of his additional two cases. He said they had not been reported, so that would make 210 cases that will be in the literature.

QUESTIONNAIRE FOR PHYSICIANS

Within the pages of this JOURNAL will be found a pink sheet of paper, a questionnaire. This is for the convenience of members who misplaced the one mailed them last month. Already several hundred replies have been received at the office of the Secretary. If you have not completed yours, please do so at once. Signature to the blank is not required.

The JOURNAL would like to record the scientific work of Georgia doctors. It earnestly requests, therefore, that each physician in the State who publishes a contribution in some other medical periodical submit an abstract of the article for these columns.

BOOK REVIEW

Procedure In Examination of the Lungs. (With Especial Reference to the Diagnosis of Tuberculosis.) By Arthur F. Kraetzer, M.D., Associate Attending Physician Lenox Hill Hospital; Physician to outpatients, New York Hospital. Oxford University Press. New York City. 126 pp.

A new and rational approach to the study of the technic of examination of the chest and diagnosis of pulmonary tuberculosis. In an informal manner the author directs the student in the actual manner, order and technic of examination. The practical and worthwhile signs are stressed and theoretical or controversial matter is minimized.

Particular stress is laid upon the value of diminished breath sounds over a lung or localized area as a sign of diagnostic importance and the chapter devoted to the differential diagnosis of chest conditions associated with diminished breath sounds is of real value. It alone would justify the wide circulation and study of this book. I strongly recommend it to students of medicine.

JOSEPH C. MASSEE, M.D.

THE JOURNAL

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478 Peachtree Street, N.E., Atlanta, Ga.

DECEMBER, 1935

THE GREAT PHYSICIAN

Christmas Message

In assuming the responsibility and privilege of writing this editorial, I do so with the devout desire that to each person who may read these lines, The Great Physician, the Savior of the World, may become a more vital and dominating influence in his life, that his purposes may be intensified, his motives purified and his ideals beautified.

The old, old story which is ever new is incomprehensible, unreal and visionary to some; to millions who are humble and nameless, it is vital;—their inspiration, their very life.

More than nineteen hundred years ago, there came into this world a wonderful and stainless personality, both human and divine. His birth marks the most wonderful epoch in all the history of the human race. A little babe lying in the fragile arms of a tender mother, caught the swinging pendulum of time, held it firmly in His tiny fingers for a moment, and then set it going again in harmony with a "New Chronology." Today every man, whether he recognizes it or not, acknowledges Him; for every letter that is written, every legal document that is signed, is dated "Anno Domini."

This man might have swayed Athens and Corinth, the center of the world's philosophies, with His new philosophy of life. He chose rather to teach the poor and unlettered, for this was Another's plan for His life. He might have held within His steady grasp the control of an earthly government stronger than Rome. He chose rather to win the hearts of men, for so His Father wished. His fingers might have been used to touch canvas and chisel marble into a life that marble and canvas had never known. He chose

rather to use His hands unstopping deaf ears, and in restoring sight to the blind. His voice could have been used to give forth the most exquisite music which would have classed Him as the world's greatest musician. He chose rather to sing to babes and men and women, tired out under heavy loads, and to call forth from the tomb the dead.

He came to carry out the plan of Another. In His own words we find the complete explanation of His mission in the world: "I am come that ye might have life, and that ye might have more abundant life."

We read: "His name shall be called Wonderful, Counsellor, the Mighty God, the Everlasting Father, The Great Physician, the Prince of Peace." Perfect peace will come to the nations of the world, or to individuals, only when they seek to have the mind and spirit of the "Prince of Peace."

We read: "Be not conformed to this world, but be ye transformed by the renewing of your mind, that ye may prove what is good and acceptable and the perfect will of God."

We read again: "Keep thy heart with all diligence, for out of the heart are the issues of life," and again, "The spirit of man is the candle of the Lord."

If we could but realize it, there is a power within each one of us, the "Great Within," which could make of us everything we have ever dreamed, imagined, or desired.

If civilization is to be preserved, leaders everywhere must accept the truth that the spirit of man is the essential factor. Man cannot live by bread alone, God is a spirit, and they that worship Him, must worship Him in spirit and in truth. Let us then as medical men, banish worry, anxiety, hatred, jealousy, greed, anger and selfishness from our hearts, and in their place enthrone Love, the mind and the spirit of the Great Physician.

The sweetest note in seraph's song, the sweetest carol ever sung is, "Jesus, blessed Jesus." At this glad Christmas season, as we anticipate the beginning of a New Year in the practice of our art, is there a more appropriate prayer than this: "Let the beauty and sympathy of the Great Physician be seen in me, all his wonderful passion and purity;

O thou spirit divine, all my nature refine, 'til the beauty and diginty of Jesus be seen in me." Thus, when we are troubled, we shall not be distressed; when we are perplexed, we shall not be in despair. If we are persecuted, we shall not be forsaken; if we are cast down we shall not be destroyed. Instead we shall realize perfectly in each of our lives that the things which are seen are but temporal, but the things which are not seen are eternal.

Know the Truth, and the Truth shall make you free.

GARNETT W. QUILLIAN, M.D.

TUBERCULOSIS IN GEORGIA

Georgia, and perhaps the whole South, is many years behind other sections of the country in the control of tuberculosis. Climate has worked against us like a two-edged sword, for it was long considered that as soon as the diagnosis of this disease was made very little could be done until the patient could be sent North or West. While on the other hand opinion existed that there was not near so much tuberculosis because our people lived in the rural sections. Doubtless we have somewhat less tuberculosis because of this fact, but we must remember that the disease is universal. A few of our larger cities are making efforts to control by preparing local institutions to treat active cases, particularly where they are living with children, thus breaking contacts; the only possible way of preventing the spread of tuberculosis.

Our State has a splendid institution doing fine work at Alto, but it can care for only about three hundred at a time, most of whom cannot be kept sufficiently long to get well because of the long waiting list and the clamor for help from all counties. It is apparent how great the need is when the facts are considered that there are approximately 10,000 active cases in need of treatment in Georgia, according to the authorities who are spending their lives fighting this plague in our State. Funds are not available for the State to care for more than a small percent, consequently it becomes a local problem for the various communities to solve. They will accomplish this as soon as public opinion has grasped these facts, with the assurance that regardless of whether the section is flat, hilly or mountainous, adequate treatment at home will suffice.

Treatment is summed up in one word which has only four letters, namely, REST, which includes rest

to the affected part as well as general body rest. It is true that food and fresh air are essential, but they are also essential in the treatment of anyone, sick or well. A good start has been made in the right direction by almost one hundred doctors in Georgia going to Alto and learning the technique of artificial pneumothorax. However, it must be remembered that the modern treatment of tuberculosis of rest to the part is surgical and cannot be carried out safely without x-ray, laboratory and operating room facilities. This should make evident the fact that the old boarding-house idea is no longer tenable.

All progressive communities must as quickly as possible crystallize public opinion favorably to building adequately to care for most tuberculous patients locally. This may be accomplished by comparatively inexpensive buildings. However, when the necessary equipment and personnel are added it is a reduplication of hospital facilities, and is not considering it from an economical standpoint, which is essential. This fact lead the National Tuberculosis Association, the American Hospital Association and the American Medical Association years ago to adopt a resolution urging all general hospitals to build tuberculous wards where adequate treatment could be carried out without cost of separately equipped institutions.

Many objections were raised, even by doctors who believed that it would be dangerous to other patients and that such wards would be a handicap because non-tuberculous patients would be afraid to enter such institutions. The above organizations, after due consideration of these and many other questions found no grounds to support these fears. As soon as doctors fully realize that tuberculosis is spread through continuous and overwhelming contact, and then mostly through children and that an occasional contact with a tuberculous patient is of no serious consequence, this idea may be passed on to the public and thus dispel the morbid dread and fear of this disease. The final plans will have to be worked out by the various communities and should be under the intelligent leadership of our doctors, a program which will necessarily extend over several years. I presented a paper before the State Pharmaceutical Association last May entitled "How Doctors and Pharmacists May Aid Public Health." The major suggestion was that the Medical Association of Georgia and the State Pharmaceutical Association should unite in concerted effort to bring about proper tuberculosis control in Georgia. The suggestion was adopted by the State Pharmaceutical Association and I hope that the Medical Association of Georgia will join hands in this great movement of tuberculosis control in which Georgia as a whole is perhaps twenty-five years behind.

J. A. REDFEARN, M.D.

The Eighty-Seventh Annual Session of the Association will be held in Savannah beginning April 21, 1936, and it is imperative that all titles for papers to be read before the assembly be submitted at an early date.

NEWS ITEMS

Dr. Archie P. Evans, formerly of Macon and Secretary-Treasurer of the Macon Medical Society, has been assigned to duty in the medical corps of the Civilian Conservation Camp at Camp Beauregard, Tioga, Louisiana.

The Decatur-Seminole Medical Society met at Donalsonville on November 5th. Dr. Thomas Chason and Dr. E. C. Smith, both of Donalsonville, entertained the members to dinner at Hotel Seminole.

Dr. W. R. McCoy, formerly of Folkston, has moved to Alma and will continue the practice of medicine at the later location.

Dr. J. E. Penland and Dr. W. D. Mixson, Waycross, were hosts to the members of the Ware County Medical Society in the home of Dr. and Mrs. J. E. Penland on November 6th. Dr. W. F. Reavis, Waycross, read a paper on *Malignancies*.

The staff meeting of St. Joseph's Infirmary, Atlanta, was held on November 26th. Dr. W. C. Waters read a paper entitled, *Intercostal Neuralgia Simulating Coronary Thrombosis*; the discussion was led by Dr. Jos. H. Hines. Dr. Leo Daly and Dr. Hayward S. Phillips, case report, *Carcinoma of Duodenum with Operation*; the discussion was led by Dr. Lon Grove.

Dr. Thomas J. Ferrell, Waycross, was elected to fellowship in the American College of Surgeons at a meeting recently held in San Francisco, Cal.

The Georgia Medical Society, Savannah, met on November 12th. The scientific program consisted of titles of papers and case reports as follows: paper by Dr. H. F. Sharpley, Jr., entitled *The Physiology of Ovulation, Menstruation and Pregnancy*, discussed by Dr. T. P. Waring and Dr. E. C. Demmond. Case report, *Destruction of the Esophagus by Potash*, discussed by Dr. E. N. Maner and Dr. G. H. Faggart.

The Spalding Medical Society met at the Strickland and Son Memorial Hospital, Griffin, on November 19th.

The staff meeting of the Crawford W. Long Memorial Hospital, Atlanta, was held on November 14th. Dr. Harry W. Ridley reported a case, *Ruptured Spleen*.

The staff meeting of Grady Hospital, Atlanta, was held on November 12th. Cases reported, *Acute Nephritis and Empyema*, Dr. W. W. Daniel; *Sarcoma of Humerus*, Dr. T. C. Davison, Dr. Bryan and Dr. Coletti; *Carcinoma of Bronchus*, Dr. H. C. Sauls and Dr. Hollar.

For information in reference to an excellent location for a young surgeon, write the Secretary-Treasurer of the Association.

Dr. R. H. Oppenheimer, Emory University, Dean of the Emory University School of Medicine, was elected Vice-President of the Association of American Medical Colleges at the close of its convention in Toronto, Canada, on October 30th.

The Southeastern Branch of the American Urological Association held its second annual meeting at the Noel Hotel, Nashville, Tennessee, December 6-7. Dr. Montague L. Boyd, Atlanta, delivered an address on the *History and Activities of the American Urological Association and the Branch Societies*. Other speakers on the program were: Drs. Wm. Braasch, Rochester, Minn.; Robert Herbst and E. M. Miller, Chicago; Burnett W. Wright, Los Angeles, Cal.; Hugh Cabot, Rochester, Minn.; Wm. E. Lower, Cleveland, Ohio; A. I. Folsom, Dallas, Texas; Geo. G. Smith, Boston, Mass.; John H. Morrissey, New York City; Thos. J. Kirwin, New York City.

Dr. Chas. W. Folsom, formerly with the United States Public Health Service, has been elected Walker County Commissioner of Health. He succeeds Dr. Samuel P. Hall, Jr., resigned.

Dr. B. H. Minchew, Waycross, President-Elect of the Association, spoke on *Health* at the Slash Pine Forest Festival Fair in Waycross.

The names of Dr. Jack C. Norris, Pathologist for Grady Hospital, Atlanta, and Dr. E. B. Sage, Pathologist for the Macon Hospital, Macon, should have been included in the list of charter members of the recently organized Georgia Association of Pathologists which appeared on page 421 of the November, 1935, issue of the JOURNAL. Their names were omitted through an oversight by the Secretary of the Georgia Association of Pathologists.

The Dugas Journal Club of the University of Georgia School of Medicine, Augusta, met on November 14th. Dr. V. P. Sydenstricker and Dr. E. S. Armstrong presented a paper on *Pellagra, Statistical and Etiological Aspects*. Dr. Harry T. Harper read a paper entitled *The Intravenous Use of Mercurochrome and Gentian Violet*.

The United States Civil Service Commission has announced open competitive examinations for "Social Worker Positions." Entrance salary for social worker (psychiatric) is \$2,000.00 a year and for junior social worker \$1,800.00 a year. Information may be obtained from the Secretary of the U. S. Civil Service Commission, Washington, at the postoffice or customhouse in any city. Applications must be on file not later than January 6, 1936.

At the recent meeting of the Richmond County Medical Society, Dr. Harry T. Harper, Augusta, read a paper entitled, *The Present Trends in Heart Disease*; discussion was led by Dr. John W. Brittingham. Two members of the Society will be elected by the

Augusta City Council to the Augusta Board of Health from a list nominated by the society. Those nominated were: Doctors Wm. A. Mulherin, H. P. Harrell, R. C. McGahee, J. Victor Roule, C. I. Bryans, and Jno. W. Brittingham.

The Sixth District Medical Society held its winter meeting at Ridley Hall, Macon, December 4, 1935. Titles of papers on the scientific program were: *The Significance of Abdominal Pain*, Dr. S. T. R. Revell, Louisville; *The Differential Diagnosis Between Hemophilia and Purpura Hemorrhagic*, Dr. N. J. Newson, Sandersville; *Cesarean Section*, Dr. O. R. Thompson, Macon; *Surgical Management of Head Injuries*, Dr. Richard Binion, Milledgeville; *Pyloric Spasm and Pyloric Stenosis*, Dr. Benjamin Bashinski, Macon; *Nutritional Anemia—Report of Cases*, Dr. Ernest F. Wahl, Thomasville.

The Ware County Medical Society met at Cordele on November 20th. Dr. Chas. A. Greer, Oglethorpe, was elected Secretary of the Society for life. He has already served for a quarter of a century.

The Southern Medical Association met in St. Louis, Missouri, November 19, 20, 21, 22. Georgia doctors elected to offices in sections of the Association were: Dr. Grady Clay, Atlanta, Vice-Chairman of the Section on Ophthalmology and Otolaryngology; Dr. Roy R. Kracke, Atlanta, Secretary of the Section on Pathology; Dr. J. W. Palmer, Ailey, Vice-Chairman of the Section on Railway Surgery; Dr. George A. Traylor, Augusta, Secretary of the Section on Railway Surgery; Dr. J. W. Jones, Atlanta, Chairman of the Section on Dermatology and Syphilology; Dr. Russell H. Oppenheimer, Emory University, Vice-Chairman of the Section on Medical Education.

The Georgia Medical Society, Savannah, held its regular meeting on November 26, 1935. Dr. Jas. G. Lyerly, Jacksonville, Fla., read a paper entitled, *Diagnosis of Brain Tumors*; discussion was led by Dr. J. C. Metts and Dr. Julian K. Quattlebaum, both of Savannah. Dr. Quattlebaum reported a case of *Large Labial Tumor*. Refreshments were served.

The Wisconsin Medical Journal, published by the State Medical Society of Wisconsin, Madison, Wis., announces that all issues of its Journal, beginning with the December, 1935, number, will be copyrighted.

Dr. J. Calvin Weaver, Atlanta, spoke on *Brain Tumors and Injuries to the Brain* at a meeting of the Study Club of the Fifth District Nurses' Association at the Henry Grady Hotel, Atlanta, December 5th.

The staff meeting of Grady Hospital, Atlanta, was held on December 10th. Dr. Samuel J. Sinkoe, Dr. C. C. Aven and Dr. Drohmer reported a case, *Colon Lesion*; Dr. T. C. Davison, Dr. W. S. Dorough and Dr. Daniel, case of *Lesion of Pylorus*.

The American Association for the Study of Goiter, through its Corresponding Secretary, Dr. W. Blair Mosser, Kane, Pennsylvania, announces that it again offers the Van Meter Prize of \$300.00 and two honorable mentions for the best essays submitted on the goiter problem. This award will be made at the discretion of the Society at its next annual meeting to be held in Chicago, Illinois, June 8, 9, 10, 1936.

The regular monthly meeting of the Macon Medical Society of Bibb county was held at Ridley Hall on December 3rd. Officers were elected for the ensuing year.

The staff meeting of the Crawford W. Long Memorial Hospital, Atlanta, was held on December 12th. Dr. Trimble Johnson made a clinical talk on the *Gastro-Intestinal Tract as Related to Diseases*.

The Georgia Public Health Association met in Atlanta December 13-14. Dr. James E. Paullin, Atlanta, President of the Medical Association of Georgia, spoke on *The Practicing Physician and Public Health Program*; Dr. M. V. Zeigler, Washington, U. S. P. H. S., *Health Work Under the Social Security Act*. Others on the program were: Dr. S. C. Rutland, LaGrange; Dr. O. L. Rogers, Sandersville; Dr. J. P. Bowdoin, Atlanta; Dr. J. E. Lester, Marietta; Dr. T. F. Sellers, Atlanta; Dr. W. W. Brown, Athens; Dr. M. A. Fort, Bainbridge; Dr. B. V. Elmore, Rome; and Dr. A. C. Shamlin, Cartersville. Dr. Martha May Eliot, Washington, Assistant Chief of the Children's Bureau of the United States Department of Labor, spoke on *Maternal and Child Hygiene Under the Social Security Act*.

The Jackson-Barrow Counties Medical Society met at the home of Mr. and Mrs. A. A. Rogers, Commerce, on December 2nd. Dr. C. B. Almand, Winder, read a paper entitled *Common Cold, Their Causes and Treatment*. Officers were elected for the ensuing year. The next meeting of the society will be held at Hotel Barrow, Winder.

The Troup County Medical Society met at LaGrange on December 5th. Dr. Mercer Blanchard, Columbus, spoke on *Infectious Diseases*; Dr. Enoch Callaway, LaGrange, showed moving pictures of the *Technic of Various Surgical Operations*. Officers were elected for the ensuing year.

The First International Conference on Fever Therapy will be held in New York City in September, 1936. The Conference will aim to collect and crystallize valuable data in this field. It is planned to translate abstracts of all the papers into English, French and German. In order to make the printed copies of the transactions available for the conference, it is necessary that manuscripts and abstracts be sent in not later than June 1, 1936. Those interested in participating are requested to make early applications. Additional information may be obtained from the Secretary, Dr. William Bierman, 471 Park Avenue, New York City.

The New York State Department of Health, through its publication, *Health News*, states that: "The statewide nursing project which has been administered by the State Temporary Relief Administration, was turned over to the Works Progress Administration on November 25th. The service will remain unchanged in organization and conduct and will continue under the sponsorship and professional supervision of the State Department of Health, as it has since its inception in 1933. Since its inauguration as a work relief project, the statewide bedside nursing service has provided care to more than 550,000 families with considerably in excess of a million and a quarter home visits."

Dr. W. G. Elliott, Cuthbert, Secretary-Treasurer of the Randolph County Medical Society, reported the payment of all dues to the Association by its members for 1936 on October 30, 1935. Dr. Elliott maintains the standard for the Society which was set by Dr. George Y. Moore, who had been elected Secretary-Treasurer for life. Dr. Moore kept the Society on the honor roll during his incumbency as Secretary-Treasurer.

OBITUARY

Dr. Henry Marshall Fullilove, Athens; member; University College of Medicine, Richmond, Virginia, 1899; aged 58; died of pneumonia at a private hospital in Athens on November 17, 1935. He was born and reared near Bishop in Oconee County. Dr. Fullilove was co-founder of the St. Mary's Hospital, Athens. The hospital first opened in a very modest frame dwelling and improvements were added from time to time since it was opened in 1906 until now it is equipped with all modern conveniences for the diagnosis and treatment of diseases and occupies a modern brick building. At the time of his death, he was surgeon for the Seaboard Air Line Railway and Vice-President of the Association of Surgeons for the Railway. He served as Clarke County physician for more than ten years, was a large landowner and dairy operator. Dr. Fullilove was an active and loyal member of the Medical Association of Georgia, served on the Cancer Commission 1920-21-22-23-24-25; Committee on the Crawford W. Long Statue 1921-22; Second Vice-President 1925-26; First Vice-President 1927-28; Vice-Councilor for the Eighth District 1922-23-24-25, Tenth District 1934-35; Councilor for the Eighth District 1928 to 1934, inclusive. He was a member of the Clarke County Medical Society, Tenth District Medical Society, American Medical Association, Kiwanis Club, Masons and the First Christian Church. Dr. Fullilove possessed an attractive retired disposition with the most exemplified character. Surviving him are his widow, one son, Henry Marshall Fullilove, Jr.; two sisters, Mrs. Maude Talmadge, Athens, and Mrs. Fred S. Harris, Valdosta. Funeral services were conducted by Dr. Stanley R. Grubb. Interment was in Oconee Hill cemetery. Members of the Clarke County Medical Society formed an honorary escort.

Dr. Alexander Stuart Matheson Coleman, Douglas; member; University of Maryland School of Medicine, 1914; aged 45; died at his home on November 15, 1935. He was born and reared in Columbus. He was a successful practitioner and one of the State's best citizens; always kind, generous and thoughtful of his associates and patients. Dr. Coleman was held in high esteem by many acquaintances. He served as Vice-Councilor 1923-24-25; Councilor 1925 to 1932, inclusive. He served in the medical corps of the United States army during the World War and for many years was surgeon for the Georgia and Florida Railroad. After the close of the war, he studied diseases of the eye, ear, nose and throat in New York City. He was a member of the Elks and Masons. Funeral services were conducted from the home by Dr. C. P. Coble. Burial was in Baltimore, Maryland. Members of the Coffee County Medical Society formed an honorary escort.

Dr. Edward Y. Walker, Willard, Eatonton, P. O.; College of Physicians and Surgeons of Baltimore, Maryland, 1881; aged 78; died at a private hospital in Atlanta on November 5, 1935. He was born and reared in Putnam County and had practiced medicine there for more than half a century. Dr. Walker was widely known and a successful practitioner. He was held in high esteem by hundreds of acquaintances. Surviving him are his widow, one daughter, Mrs. Paul Ballard, Eatonton; three sons, Dr. E. Y. Walker, Jr., Atlanta; F. M. Walker, Minneapolis, and T. S. Walker, Alvin, Texas. Interment was in the Willard cemetery.

Dr. John Oliver Kelly, Avera; member; Atlanta School of Medicine, Atlanta, 1908; aged 54; died at his home on October 31, 1935. He was born and reared in Jefferson County. Dr. Kelly was one of the most favored physicians of his community and had endeared himself to hundreds of people by his success as a practitioner and his sympathetic understanding of the needs of the people. He was a member of the Jefferson County Medical Society, Masonic lodge and Pleasant Grove Baptist church. Surviving him are his widow, one daughter, Miss Johnnie Maude Kelley, Avera; two brothers and four sisters. Funeral services were conducted by Rev. J. G. Page from the Pleasant Grove Baptist church. Burial was in the churchyard.

Dr. William Robert Lovett, Sylvania; member; University of Georgia School of Medicine, Augusta, 1887; aged 73; died of heart disease at his home on November 11, 1935. He was born and reared near Sylvania in Screven County. Dr. Lovett was one of the pioneers in the practice of medicine in his section. Began making calls by riding horseback, then used a road cart; later a buggy and in more recent years an automobile. His success in relieving the sick and performing minor operations was unusual under

adverse circumstances during the early years of his practice and naturally his efficiency and success increased later when conditions and equipment were more modern. Many think that he probably knew more of the history of Screven County than any other person. Surviving him are his widow, two sons, Robert A. and Bates Lovett, Sylvania. Funeral services were conducted by Rev. Leonard Cochran. Burial was in the Sylvania cemetery.

Dr. Richard L. King, Hulett, R. F. D., Villa Rica, P. O.; Southern Medical College, Atlanta, 1894; aged 65; died at his home on October 26, 1935. He had practiced medicine for more than forty years. Served as assistant physician at the Federal Penitentiary for three years, 1923-24-25. Dr. King was a successful physician and a prominent citizen. Surviving him are his widow, five daughters: Mrs. L. L. Polk, Eustis, Florida; Mrs. H. K. Jones, Atlanta; Misses LaRue, Elsie and Clotille King, all of Hulett; three sons, Dr. L. P. King, Greenville, Florida; P. N. King, Eustis, Florida; and Otis King, Hulett. Funeral services were conducted from the residence by Rev. George L. Jones. Burial was in the King cemetery.

Dr. John H. Powell, Atlanta; member; Georgia College of Eclectic Medicine and Surgery, Atlanta, 1893; aged 66; died at his home on Memorial Drive, Atlanta, November 16, 1935. He was born in Lenoir, North Carolina, and had lived and practiced medicine in Atlanta for twenty-five years. Dr. Powell limited his practice to ophthalmology, otology, laryngology, rhinology, and enjoyed an extensive practice. He was kind and generous. Dr. Powell was a member of the Fulton County Medical Society, American Medical Association, Capitol City Club, Knights of Columbus and the Sacred Heart church. Surviving him are his widow, two brothers, Jacob and Philip Powell, both of Lenoir, N. C.; two sisters, Mrs. Mattie Sudderth, Lenoir, N. C., and Mrs. Mary Williams Wilcox, N. C. Funeral services were conducted by Rev. Father John Emmereth from the Sacred Heart church. Burial was in West View cemetery.

Dr. James Henry McDuffie, Columbus; member; University of Maryland School of Medicine and College of Physicians and Surgeons, Baltimore, Maryland, 1887; aged 76; died at his home on November 16, 1935. He was born near Fayetteville, N. C. Dr. McDuffie began the practice of medicine at Keyser, N. C., later moved to Anniston, Ala., then to Columbus, where he had practiced for forty years. Dr. W. J. Love, Opelika, Ala., and Dr. McDuffie organized the Chattahoochee Valley Medical Association and Dr. McDuffie was its second President. He served on the Georgia State Board of Health for twenty-one years. Dr. McDuffie was a prominent practitioner and for many years limited his practice to obstetrics. He

was a member of the Muscogee County Medical Society, American Medical Association, Knights of Pythias, and Presbyterian church. Surviving him are two daughters, Mrs. C. A. Shuler, Fort Wayne, Ind., and Mrs. Wheeler Tolbert, Columbus; two sons, Dr. J. H. McDuffie, Jr., and Lewis R. McDuffie, both of Columbus. Funeral services were conducted from the First Presbyterian church by Dr. Robert S. Boyd. Interment was in Linwood cemetery.

Dr. Willis F. Westmoreland, Atlanta; member; Emory University School of Medicine, Emory University, 1885; aged 71; died suddenly at his home on December 4, 1935. He was born and reared in Atlanta. His father was one of the pioneer surgeons during the reconstruction period after the Civil War and aided in organizing the Southern Medical College, Atlanta, in 1878. Dr. Westmoreland had a wide reputation as a surgeon and contributed in many ways to the developments in the field of surgery until he retired from active practice eight years ago. For many years he held an enviable reputation as a physician and surgeon, and wrote many papers on subjects which created a national interest. Dr. Westmoreland was instrumental in the development and continuous growth of the Fulton County Medical Society and the Medical Association of Georgia. He was Emeritus Professor of Surgery and Clinical Surgery at Emory University School of Medicine, President of the Medical Association of Georgia, 1894-95. At the time of his death, he was a member of the Fulton County Medical Association and the American Medical Association. Surviving him are his widow and one son, Willis F. Westmoreland, Jr. Dr. W. W. Memminger conducted the funeral services from the home. Burial was in Oakland cemetery. Members of the Fulton County Medical Society formed an honorary escort. Pallbearers were: Doctors Wm. S. Goldsmith, Omar F. Elder, J. Calvin Weaver, W. E. Person, C. W. Strickler, John Thomson and Jas. R. Wells.

Dr. Robert Berrien Ridley, Atlanta; member; Atlanta College of Physicians and Surgeons, Atlanta, 1902; aged 56; died at his home of heart disease on December 4, 1935. He was a native of Atlanta and had practiced medicine for more than thirty years. Dr. Ridley studied diagnosis and treatment of diseases of the eye, ear, nose and throat at Jefferson Medical College, Philadelphia, and served as Captain in the Medical Corps of the United States Army during the World War. He was a prominent practitioner and held in high esteem by many acquaintances. Dr. Ridley was a member and Ex-President of the Fulton County Medical Society, member of the American Medical Association, Scottish Rite Masons, Shrine, and North Avenue Presbyterian church. Surviving him are his widow, two brothers, Carl H. and John F. Ridley; three sisters, Mrs. L. L. Hunnicutt, Mrs. J. A. Hagan,

and Mrs. Robert Troutman. Dr. Richard Orme Flinn conducted the funeral services from Spring Hill chapel. Interment was in West View cemetery.

Dr. John W. Field, Atlanta; Georgia College of Eclectic Medicine and Surgery, Atlanta, 1894; aged 72; died at the home of his daughter, Mrs. W. M. Neri, Atlanta, on December 4, 1935. He was a native of Cherokee county and practiced medicine in Canon and Cornelia before moving to Atlanta about eighteen years ago. Dr. Field was well known in north-east Georgia and had many friends. Surviving him are two daughters, Mrs. W. M. Neri, Atlanta, and Mrs. R. C. Conner, Dunedin, Fla.; two sons, Howard L. Field, Jacksonville, and Jno. W. Field, Calhoun. Rev. Felton Williams conducted the funeral services from Spring Hill chapel. Burial was in West View cemetery.

Dr. Iverson Clark Case, Atlanta; University of Georgia School of Medicine, Augusta, 1917; aged 51; died in a government hospital in Atlanta on November 25, 1935. He was born and reared in Milledgeville. He served with the British Medical Corps during the World War. After the armistice was signed he enlisted in the Medical Corps of the U. S. Army and served at Fort Sheridan, Ill., and at Fort Benning, Ga. After he received an honorable discharge, he began the private practice of medicine and continued until two years ago when ill health forced him to retire. Surviving him are his widow and two sons, Geo. D. and I. C. Case, Jr., both of Atlanta.

Dr. John Drewery Mangham, Alamo; University of Georgia School of Medicine, Augusta, 1932; aged 33; died suddenly in his hotel room on November 30, 1935. He was born in Upson county, reared at Omega and received his literary education at Mercer University, Macon. Dr. Mangham served his internship at the Baroness Erlanger Hospital, Chattanooga, Tenn., began practice at Lula, moved to Tifton, thence to Alamo. He had been in ill health for several years. Surviving him are his widow, parents, one brother and two sisters. Funeral services were conducted by Rev. W. C. Rahn from Bowen's Funeral Chapel in Omega and burial was in the village cemetery.

Dr. Joseph G. Edie, Nashville; National Medical University, Chicago, Ill., 1891; aged 82; died at his home on November 18, 1935. He practiced medicine in Missouri, Iowa and Florida and moved to Nashville forty years ago. He was one of the cities oldest citizens and an excellent physician until he retired seven years ago. Surviving him are his widow, one son, J. Galen Edie, Nashville; four daughters, Mrs. Mabel Hugger, Haines City, Fla.; Mrs. Glenn Jones, Macon; Mrs. Belle McNeill, Nashville; and Mrs. J. W. Burghard, Atlanta.

COUNTIES REPORTING FOR 1936

Macon Medical Society of Bibb County

The Macon Medical Society of Bibb County announces the following officers for 1936:

President—Ernest Corn, Macon.
 President-Elect—Wallace L. Bazemore, Macon.
 Vice-President—John I. Hall, Macon.
 Secretary-Treasurer—Willard R. Golsan, Macon.
 Censor—J. D. Applewhite, Macon.
 Delegate—James B. Kay, Byron.
 Delegate—Olin H. Weaver, Macon.
 Alternate Delegate—H. C. Atkinson, Macon.
 Alternate Delegate—A. R. Rozar, Macon.
 Librarian—Walter E. Mobley, Macon.
 Auditing Committee—I. H. Adams, W. C. Boswell and Raymond Saurez.

Bartow County Medical Society

The Bartow Medical Society announces the following officers for 1936:

President—W. E. Wofford, Cartersville.
 Vice-President—J. W. Stanford, Cartersville.
 Delegate—T. Lowry, Cartersville.

Jackson-Barrow Counties Medical Society

The Jackson-Barrow Counties Medical Society announces the following officers for 1936:

President—C. B. Lord, Jefferson.
 Vice-President—C. B. Almand, Winder.
 Secretary-Treasurer—J. T. Stovall, Jefferson.

Troup County Medical Society

The Troup County Medical Society announces the following officers for 1936:

President—R. S. O'Neal, LaGrange.
 Vice-President—Cal Morgan, West Point.
 Secretary-Treasurer—J. S. Holder, LaGrange.
 Delegate—Enoch Callaway, LaGrange.
 Alternate Delegate—Hugh McCulloh, West Point.

Ware County Medical Society

The Ware County Medical Society announces the following officers for 1936:

President—R. L. Johnson, Waycross.
 Vice-President—W. L. Pomeroy, Waycross.
 Secretary-Treasurer—K. McCullough, Waycross.
 Delegate—W. F. Reavis, Waycross.
 Alternate Delegate—Leo Smith, Homerville.

KAHN LECTURES

The Atlanta Clinical Society announces a series of lectures by Dr. Reuben L. Kahn at the Academy of Medicine on January 27, 28 and 29, 1936. All members of the Medical Association of Georgia will be invited to attend. It is hoped that all those who had the pleasure of hearing Dr. Kahn at the time of the State Convention last spring will come to these lectures and will bring their friends. The title of the course of lectures will be *Tissue Immunity and Clinical Medicine*.

OFFICERS AND COMMITTEES MEDICAL ASSOCIATION OF GEORGIA 1935-1936

EIGHTY-SEVENTH ANNUAL SESSION, SAVANNAH
APRIL 21, 22, 23, 24, 1936

Officers

President.....	James E. Paullin, Atlanta
President-Elect.....	B. H. Minchew, Waycross
First Vice-President.....	James J. Clark, Atlanta
Second Vice-President.....	Philip R. Stewart, Monroe
Secretary-Treasurer.....	Edgar D. Shanks, Atlanta
Parliamentarian.....	John W. Simmons, Brunswick

Delegates to the A. M. A.

William H. Myers (1935-36).....	Savannah
Alternate, Wm. A. Mulherin.....	Augusta
Chas. W. Roberts (1935-36).....	Atlanta
Alternate, Marion C. Pruitt.....	Atlanta
Olin H. Weaver (1936-37).....	Macon
Alternate, C. K. Sharp.....	Arlington

Council

J. A. Redfearn, Chairman.....	Albany
Grady N. Coker, Clerk.....	Canton

Councilors

1. C. Thompson (1936).....	Millen
2. J. A. Redfearn (1936).....	Albany
3. J. C. Patterson (1936).....	Cuthbert
4. Kenneth S. Hunt (1936).....	Griffin
5. W. A. Selman (1937).....	Atlanta
6. H. G. Weaver (1937).....	Macon
7. M. M. McCord (1937).....	Rome
8. J. E. Penland (1937).....	Waycross
9. Grady N. Coker (1938).....	Canton
10. S. J. Lewis (1938).....	Augusta

Vice-Councilors

1. Jas. C. Metts (1936).....	Savannah
2. Chas. H. Watt (1936).....	Thomasville
3. J. Cox Wall (1936).....	Eastman
4. Enoch Callaway (1936).....	LaGrange
5. Marion C. Pruitt (1937).....	Atlanta
6. H. D. Allen (1937).....	Milledgeville
7. H. J. Ault (1937).....	Dalton
8. Wm. W. Turner (1937).....	Nashville
9. J. K. Burns (1938).....	Gainesville
10. H. M. Fullilove (1938) (deceased).....	Athens

Honorary Advisory Board

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Ralston Lattimore.....	President, 1913-1914
W. S. Goldsmith.....	President, 1915-1916
J. G. Dean.....	President, 1916-1917
E. E. Murphey.....	President, 1917-1918
J. W. Palmer.....	President, 1918-1919
J. M. Smith.....	President, 1922-1923
J. W. Daniel.....	President, 1923-1924
J. O. Elrod.....	President, 1924-1925
F. K. Boland.....	President, 1925-1926
V. O. Harvard.....	President, 1926-1927
W. A. Mulherin.....	President, 1927-1928
C. K. Sharp.....	President, 1928-1929
Wm. R. Dancy.....	President, 1929-1930
A. G. Fort.....	President, 1931-1932

M. M. Head.....	President, 1932-1933
C. H. Richardson.....	President, 1933-1934
Clarence L. Ayers.....	President, 1934-1935

COMMITTEES

Scientific Work

S. T. R. Revell, Chairman (1936).....	Louisville
Geo. A. T aylor (1937).....	Augusta
H. C. Sauls (1938).....	Atlanta
Edgar D. Shanks, Secretary-Treasurer.....	Atlanta

Public Policy and Legislation

Dan Y. Sage, Chairman (1937).....	Atlanta
A. R. Rozar (1936).....	Macon
C. C. Aven (1938).....	Atlanta
Edgar D. Shanks, Secretary-Treasurer.....	Atlanta
T. F. Abercrombie, Director, Department of Public Health, State of Georgia.....	Atlanta

Medical Defense

Frank K. Boland, Chairman (1938).....	Atlanta
J. O. Elrod (1936).....	Forsyth
Wm. A. Mulherin (1939).....	Augusta
J. A. Redfearn, Chairman of Council.....	Albany
Edgar D. Shanks, Secretary-Treasurer.....	Atlanta

Hospitals

R. H. Oppenheimer, Chairman (1937).....	Atlanta
Arthur D. Little (1936).....	Thomasville
D. Henry Poer (1938).....	Atlanta
C. D. Whelchel (1939).....	Gainesville
L. P. Holmes (1940).....	Augusta

Abner Wellborn Calhoun Lectureship

Jas. E. Paullin, Chairman (1938).....	Atlanta
H. I. Reynolds (1939).....	Athens
Eugene E. Murphey (1940).....	Augusta
Craig Barrow (1936).....	Savannah
Frank K. Boland (1937).....	Atlanta

Economics

Lewis M. Gaines, Chairman (1940).....	Atlanta
C. W. Roberts (1938).....	Atlanta
C. L. Ridley (1936).....	Macon
Dan Y. Sage (1937).....	Atlanta
J. H. Downey (1939).....	Gainesville

Necrology

A. J. Mooney, Chairman.....	Statesboro
Thos. J. McArthur.....	Cordele
C. K. Sharp.....	Arlington

Medical History of Georgia

Sub-Committee

Frank K. Boland, Chairman.....	Atlanta
William R. Dancy.....	Savannah
Arthur G. Fort.....	Atlanta
V. H. Bassett.....	Savannah
Allen H. Bunce.....	Atlanta

Crawford W. Long Memorial Prize

William R. Dancy, Chairman.....	Savannah
Stewart R. Roberts.....	Atlanta
V. P. Syndenstricker.....	Augusta
George Bachmann.....	Atlanta
Edgar R. Pund.....	Augusta

Cancer Commission

Jas. L. Campbell, Chairman.....	Atlanta
William H. Myers.....	Savannah
Charles H. Watt.....	Thomasville
J. C. Patterson.....	Cuthbert

Kenneth S. Hunt	Griffin
Charles C. Harrold	Macon
R. M. Harbin	Rome
Kenneth McCullough	Waycross
Grady N. Coker	Canton
Ralph H. Chaney	Augusta

Advisory—State Board of Health

C. W. Roberts, Chairman	Atlanta
Craig Barrow	Savannah
M. E. Winchester	Brunswick
M. M. McCord	Rome
Marvin H. Head	Zebulon
A. H. Hilsman	Albany
T. F. Abercrombie	Atlanta

Advisory—Woman's Auxiliary

Jas. N. Brawner, Chairman	Atlanta
J. M. Smith	Valdosta
E. R. Harris	Winder
W. R. Garner	Gainesville
Benjamin Bashinski	Macon

L. G. Hardman Loving Cup

W. A. Selman, Chairman	Atlanta
Wm. A. Mulherin	Augusta
Chas. H. Watt	Thomasville
M. M. McCord	Rome

Crawford W. Long Bronze Statue to Cooperate with Chamber of Commerce, Jefferson, Georgia

Garnett W. Quillian, Chairman	Atlanta
Ralph M. Goss	Athens
D. N. Thompson	Elberton
E. M. McDonald	Winder

*Prize for Hookworm Control**

W. F. Reavis, Chairman	Waycross
E. F. Wahl	Thomasville
H. M. Tolleson	Eastman

*Award by the Ware County Medical Society.

Study of Maternal Mortality and Infant Deaths

E. D. Colvin, Chairman	Atlanta
------------------------------	---------

First District

A. J. Mooney	Statesboro
A. J. Waring	Savannah

Second District

W. L. Wilkinson	Bainbridge
W. W. Jarrell	Thomasville

Third District

Herschel A. Smith	Americus
J. C. Patterson	Cuthbert

Fourth District

H. J. Copeland	Griffin
Emory R. Park	LaGrange

Fifth District

E. D. Colvin	Atlanta
J. R. McCord	Atlanta

Sixth District

Otis R. Thompson	Macon
T. C. Clodfelter	Eatonton

Seventh District

P. O. Chaudron	Cedartown
W. Mayes Gober	Marietta

Eighth District

M. E. Winchester	Brunswick
E. J. Overstreet	Baxley

Ninth District

Pratt Cheek	Gainesville
Geo. C. Brooke	Canton

Tenth District

S. S. Smith	Athens
John W. Thurmond, Jr.	Augusta

Ex-Officio

T. F. Abercrombie, Director, Department of Public Health for Georgia	Atlanta
--	---------

Fraternal Delegate to the Georgia Dental Association

R. Hugh Wood	Atlanta
--------------------	---------

Fraternal Delegate to the Georgia Pharmaceutical Association

Glenville Giddings	Atlanta
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Fraternal Delegates to Other State Meetings

To visit Alabama—Wallace H. Clark, LaGrange, and J. T. McCall, Rome.

To visit Florida—C. F. Holton, Savannah, and Arthur G. Fort, Atlanta.

To visit North Carolina—H. L. Erwin, Dalton, and C. G. Butler, Gainesville.

To visit South Carolina—Stewart D. Brown, Royston, and G. Lombard Kelly, Augusta.

HONOR ROLL FOR 1935

1. Randolph County, Dr. W. G. Elliott, Cuthbert, December 7, 1934.

2. Habersham County, Dr. O. N. Harden, Cornelia, December 19, 1934.

3. Monroe County, Dr. G. H. Alexander, Forsyth, January 4, 1935.

4. Franklin County, Dr. Stewart D. Brown, Royston, January 15, 1935.

5. Dougherty County, Dr. Alex R. Freeman, Albany, January 31, 1935.

6. Hancock County, Dr. H. L. Earl, Sparta, February 25, 1935.

7. Turner County, Dr. J. H. Baxter, Ashburn, February 26, 1935.

8. Ware County, Dr. Kenneth McCullough, Waycross, March 7, 1935.

9. Whitfield County, Dr. H. J. Ault, Dalton, March 8, 1935.

10. Elbert County, Dr. A. S. Johnson, Elberton, March 15, 1935.

11. Chattooga County, Dr. H. D. Brown, Summerville, April 1, 1935.

12. Worth County, Dr. Gordon S. Sumner, Sylvestor, April 2, 1935.

13. Morgan County, Dr. W. C. McGeary, Madison, April 5, 1935.

14. Hart County, Dr. A. O. Meredith, Hartwell, April 12, 1935.

15. Murray County, Dr. E. H. Dickie, Chatsworth, April 19, 1935.

16. Tri County, (Calhoun, Early, Miller) Dr. J. G. Standifer, Blakely, September 13, 1935.

17. Harris County, Dr. M. F. Haygood, Hamilton, September 19, 1935.

HONOR ROLL FOR 1936

1. Randolph County, Dr. W. G. Elliott, Cuthbert, October 30, 1935.

Directory of the Medical Association of Georgia for 1935

Names of all Members and Officers are published as correct by Secretaries of County Societies.

ALTAMAHA (Appling County)

Officers

President.....Overstreet, E. J.
Vice-President.....Branch, W. D.
Secretary-Treasurer.....Holt, J. T.

Members

Branch, W. D., Baxley
Holt, J. T., Baxley
Kennedy, F. D., Baxley
McCracken, H. C., Baxley
Overstreet, E. J., Baxley
Powell, J. D., Hazlehurst

BALDWIN COUNTY

Officer

Secretary-Treasurer.....Evans, R. E.

Members

Allen, E. W., Milledgeville
Allen, H. D., Jr., Milledgeville
Anderson, S. A., Milledgeville
Bailey, L. A., Milledgeville
Binion, Richard, Milledgeville
Bostwick, W. A., Hardwick
Bradford, R. W., Milledgeville
Cornwell, Gibson, K., Milledgeville
Cox, C. G., Milledgeville
Echols, Geo. L., Milledgeville
Evans, R. E., Milledgeville
Fulghum, C. B., Milledgeville
Garrard, J. I., Hardwick
Hall, T. M., Milledgeville (Hon.)
Holder, F. P., Jr., Milledgeville
Longino, L. P., Hardwick
Moran, O. F., Milledgeville
Oden, John W., Milledgeville
Sanchez, A. S., Eatonton
Scott, W. M., Milledgeville
Smith, J. P., Milledgeville
Smith, J. M., Gordon
Swint, R. C., 1811 North Rock
Springs Road, Atlanta
Wheeler, G. A., Milledgeville (Hon.)
Wiley, John D., Milledgeville
Woods, O. C., Milledgeville
Yarbrough, Y. H., Milledgeville

BARTOW COUNTY

Officers

President.....Adair, R. E.
Vice-President.....Bradford, H. B.
Secretary-Treasurer.....Wofford, W. E.
Delegate.....Bradford, H. B.
Alternate Delegate.....Lowry, T.

Members

Adair, R. E., Cartersville
Bowdoin, J. P., Adairsville
Bradford, H. B., Pine Log
Griffin, W. C., Cartersville,
(Hon.) (deceased)
Horton, A. L., Cartersville
Howell, S. M., Cartersville
Lowry, T., Cartersville
McGowan, H. S., Cartersville
Shamblin, A. C., Cartersville

Stanford, J. W., Cartersville
Wofford, W. E., Cartersville

BEN HILL COUNTY

Officers

President.....Dorminy, E. J.
Vice-President.....Willis, G. W.
Secretary-Treasurer.....Osborne, L. S.
Delegate.....Willis, G. W.

Members

Abram, Lewis, Fitzgerald
Bradley, T. E., Fitzgerald
Coffee, W. P., Fitzgerald
Dorminy, E. J., Fitzgerald
Frazer, J. L., Fitzgerald (Asso.)
Harper, A., Wray
McMillan, J. E., Fitzgerald
Osborne, L. S., Fitzgerald (Hon.)
Ward, Frank, Fitzgerald (Asso.)
Ware, D. B., Fitzgerald
Ware, R. M., Fitzgerald
Wilcox, C. H., Fitzgerald
Willis, G. W., Ocilla

MACON MEDICAL SOCIETY

(Bibb County)

Officers

President.....Farmer, C. Hall
Vice-President.....Corn, Ernest
Secretary-Treasurer.....Golsan, W. R.
Delegate.....Kay, Jas., B.
Delegate.....Rozar, A. R.

Members

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Macon
Anderson, C. L., 700 Spring St.,
Macon
Anderson, J. C., Georgia Casualty
Bldg., Macon
Applewhite, J. D., 720 New St., Macon
Atkinson, H. C., 700 Spring St., Macon
Bashinski, Benj., 700 Spring St., Macon
Baxley, W. W., Porterdale
Bazemore, W. L., Georgia Casualty
Bldg., Macon
Daniel, Orman, First National Bank
& Trust Co., Bldg., Macon
Boswell, W. Chas., Georgia Casualty
Bldg., Macon
Brown, J. F., Middle Georgia Sana-
torium, Macon
Chrisman, W. W., 700 Spring St.,
Macon
Clay, J. Emory, Clinic Hospital, Macon
Coleman, Y. R., 124 Hardeman Ave.,
Macon
Corn, Ernest, 700 Spring St., Macon
Coward, J. W., Walden
Derry, H. P., 664 College St., Macon
Dove, W. B., Grand Bldg., Macon
DuPree, G. W., Gordon
Evans, A. P., C.C.C., Camp Beaure-
gard, Tioga, La.
Farmer, C. Hall, Clinic Hospital, Macon

Fountain, Jas. A., Georgia Casualty
Bldg., Macon
Gewinner, N. G., 1205 Vineville Ave.,
Macon (Hon.)
Golsan, W. R., Georgia Casualty Bldg.,
Macon
Goolsby, R. Cullen, Jr., Georgia Casual-
ty Bldg., Macon
Gostin, B. S., 636 Orange St., Macon
Greene, B. W., Bibb Bldg., Macon
(Hon.)
Hall, J. I., Georgia Casualty Bldg.,
Macon
Hall, T. H., 617 Mulberry St., Macon
Harrold, C. C., 700 Spring St., Macon
Harrold, Thos., 700 Spring St., Macon
Hembree, J. A., Jeffersonville
Hinton, C. C., 700 Spring St., Macon
Holmes, J. P., 700 Spring St., Macon
Hurley, T. A., Clinic Hospital, Macon
Johnson, J. E. L., Roberta
Kay, J. B., Byron
Keen, O. F., Oglethorpe Infirmary,
Macon
Keiser, John M., Bibb Bldg., Macon
Kemp, A. P., 511 Walnut St., Macon
King, J. L., Georgia Casualty Bldg.,
Macon
Martin, J. W., Bibb Bldg., Macon
Massenburg, G. Y., Clinic Hospital,
Macon
McAfee, L. C., Bibb Bldg., Macon
McMichael, V. H., 106 DeSoto Place,
Macon (Hon.)
Meriwether, W. W., Georgia Casualty
Bldg., Macon
Miller, G. T., First National Bank &
Trust Co. Bldg., Macon (Hon.)
Mobley, W. E., 700 Spring St., Macon
Moses, Harry, Frank Bird Hospital,
Valdosta
Newman, W. A., 700 Spring St., Macon
Newton, R. G., Georgia Casualty Bldg.,
Macon
Palmer, S. B., Georgia Casualty Bldg.,
Macon
Penington, C. L., 700 Spring St., Macon
Phillips, A. M., Georgia Casualty Bldg.,
Macon
Porch, Leon D., Georgia Casualty
Bldg., Macon
Rawls, Lewis L., Georgia Casualty
Bldg., Macon
Richardson, C. H., 700 Spring St.,
Macon
Richardson, R. W., Georgia Casualty
Bldg., Macon
Ridley, C. L., Bankers Health & Life
Bldg., Macon
Rogers, T. E., 700 Spring St., Macon
Ross, J. T., First National Bank &
Trust Co. Bldg., Macon
Ross, Thos. L., 700 Spring St., Macon
Rozar, A. R., Oglethorpe Infirmary,
Macon

Rubin, S. N., Grand Bldg., Macon
 Suarez, Raymond, Georgia Casualty Bldg., Macon
 Saye, E. B., Macon Hospital, Macon
 Siegel Alvin E., Georgia Casualty Bldg., Macon
 Sigman, J. M., Grand Bldg., Macon
 Smith, Horace D., U. S. Veterans' Administration Facility, Los Angeles, Cal.
 Smith, J. Allen, 700 Spring St., Macon
 Swilling, Evelyn, Georgia Casualty Bldg., Macon
 Thompson, O. R., 700 Spring St., Macon
 Walker, C. H., 374 Orange St., Macon
 Walker, D. D., 700 Spring St., Macon
 Ware, Ford, 700 Spring St., Macon
 Wasden, C. N., Georgia Casualty Bldg., Macon
 Watson, O. O., Clinic Hospital, Macon
 Weaver, H. G., 700 Spring St., Macon
 Weaver, O. H., 700 Spring St., Macon
 Williams, W. A., Georgia Casualty Bldg., Macon
 Wright, J. E., 324 College St., Macon

BLUE RIDGE SOCIETY**Officers**

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 Vice-President _____ Tankersley, J. S.
 Secretary-Treasurer _____ Crawford, C. B.
 Delegate _____ Crawford, C. B.

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 Crawford, C. B., Blue Ridge
 Daves, J. M., Blue Ridge
 Prince, E. L., Morganton
 Rogers, W. H., Young Cane
 Tankersley, J. S., Ellijay
 Watkins, Edward W., Ellijay

BROOKS COUNTY**Members**

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 Jelks, E. L., Quitman
 McMichael, J. R., Quitman
 Smith, L. A., Quitman

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 Daniel, J. W., Claxton
 Deal, B. A., Statesboro
 Ellis, S. T., Claxton
 Floyd, W. E., Statesboro
 Jones, B. B., Metter
 Kennedy, R. L., Metter
 Kennedy, W. D., Metter
 McElveen, J. M., Brooklet
 Mooney, A. J., Statesboro
 Nevil, J. L., Metter
 Olliff, H. H., Register
 Patrick, J. Z., Pulaski
 Simmons, W. E., Metter
 Stapleton, C. E., Groveland
 Temples, L. G., Statesboro
 Watkins, E. C., Brooklet

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 Vice-President _____ Lowe, W. R.
 Secretary-Treasurer _____ Miller, R. L.
 Delegate _____ Miller, R. L.
 Alternate Delegate _____ McCarver, W. C.

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 Byne, J. M., Jr., Waynesboro
 Byne, J. M., Sr., Waynesboro
 Daniel, Byron, Sardis
 Hillis, W. W., Sardis
 Lewis, J. B., Waynesboro
 Lowe, W. R., Midville
 McCarver, W. C., Vidette
 Miller, R. L., Waynesboro
 Smith, B. H., Keysville

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Secretary-Treasurer _____ Hammond, R. L.

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Akin, B. F., Jenkinsburg
 Hammond, Robert L., Jackson

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 Vice-President _____ Camp, R. T.
 Secretary-Treasurer _____ Green, A. J.
 Delegate _____ Camp, R. T.

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 Camp, R. T., Fairburn
 Camp, W. R., Fairburn
 Green, A. J., Union City

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 Vice-President _____ Barker, H. L.
 Secretary-Treasurer _____ Reese, D. S.
 Delegate _____ Lyle, W. C.
 Alternate Delegate _____ Fitts, C. C.

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 Burgess, P. L., Bowdon, R. 1
 Fitts, C. C., Carrollton
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 Hamilton, R. E., Douglasville
 Hogue, W. L., Villa Rica
 King, O. D., Bremen
 Kirby, E. G., Bowdon
 Lyle, W. C., Carrollton (Hon.)
 Nutt, J. J., Bowdon
 Powell, B. C., Villa Rica
 Powell, Jno. E., Villa Rica
 Reese, D. S., Carrollton
 Roberts, O. W., Carrollton
 Scales, S. F., Carrollton, R. 1
 Smith, W. P., Bowdon
 Styles, O. R., Bowdon

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(Chatham County)

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 President-Elect _____ Holton, C. F.
 Vice-President _____ Kandel, Harry M.
 Secretary-Treasurer _____ Schwalb, O. W.
 Delegate _____ Lang, G. H.
 Delegate _____ Martin, R. V.
 Alternate Delegate _____ Charlton, T. J.
 Alternate Delegate _____ Usher, Chas.

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 Baker, J. O., 126 East Oglethorpe Ave., Savannah
 Barrow, Craig, Chippewa Square, Savannah
 Bassett, V. H., City Hall, Savannah
 Bedingfield, W. O., 7 West Gordon St., Savannah

Blitch, J. R., Ellabell (Hon.)

Bray, S. E., DeRenne Apartments, Savannah
 Broderick, J. R., 415 Abercorn St., Savannah
 Brown, C. T., Guyton
 Charlton, T. J., 220 East Oglethorpe Ave., Savannah
 Chisholm, J. F., 512 Abercorn St., Savannah
 Chisholm, J. F., Jr., 512 Abercorn St., Savannah
 Cole, W. A., 24 East Taylor St., Savannah
 Corson, E. R., 10 West Jones St., Savannah
 Crawford, W. B., 14 East Taylor St., Savannah
 Dancy, W. R., 104 West Jones St., Savannah
 Daniel, John W., Jr., 114 East Jones St., Savannah
 Daniel, J. W., 14 East Jones St., Savannah
 DeCaradeuc, St. J. R., DeRenne Apartments, Savannah
 DeLoach, L. A., 15 East Jones St., Savannah
 Demmond, E. C., DeRenne Apartments, Savannah
 Drane, Robert, DeRenne Apartments, Savannah
 Dunn, L. B., 201 East York St., Savannah
 Edwards, D. B., 606 Drayton St., Savannah
 Egan, M. J., 210 East Liberty St., Savannah
 Egloff, G. E., 215 East Gaston St., Savannah
 Elliott, J. L., DeSoto Hotel, Savannah
 Epting, M. J., 20 East Jones St., Savannah
 Exley, H. T., 116 East Jones St., Savannah
 Faggart, G. H., 14 West Oglethorpe Ave., Savannah
 Freedman, L. M., 350 Bull St., Savannah
 Gleaton, E. N., 212 East Gaston St., Savannah
 Graham, R. E., 9 West Gordon St., Savannah
 Harris, R. V., 120 East Hall St., Savannah
 Hesse, H. W., 112 East Jones St., Savannah
 Holton, C. F., DeRenne Apartments, Savannah
 Howard, Lee, DeRenne Apartments, Savannah
 Iseman, E., 105 East Jones St., Savannah
 Johnson, G. H., 116 East Oglethorpe Ave., Savannah
 Jones, Jabez, DeRenne Apartments, Savannah
 Jones, J. P., 109 East Jones St., Savannah
 Kandel, Harry M., 213 East Gaston St., Savannah
 King, Ruskin, 201 East Hall St., Savannah
 Lang, G. H., 204 East Liberty St., Savannah
 Lattimore, R., 2 East Jones St., Savannah

Lee, Lawrence, DeRenne Apartments,
Savannah
Levington, H. L., 209 East Gaston St.,
Savannah
Long, W. V., DeSoto Hotel, Savannah
Manor, E. N., 247 Bull St., Savannah
Martin, R. V., 109 West Jones St.,
Savannah
Massoud, M. A., Pineora
McGee, H. H., 346 Bull St., Savannah
McLaughlin, C. K., 302 Bull St., Sa-
vannah
Metts, Jas. C., 427 Bull St., Savannah
Morrison, A. A., 108 East Jones St.,
Savannah
Morrison, H. J., 427 Bull St., Savan-
nah
Myers, W. H., 402 Drayton St., Sa-
vannah
Norton, W. A., 105 East Oglethorpe
Ave., Savannah
Olmstead, G. T., 22 East Taylor St.,
Savannah
O'Neill, J. C., 202 East Liberty St.,
Savannah
Osborne, E. S., 19 East Jones St., Sa-
vannah
Pinholster, J. H., 4 West Liberty St.,
Savannah
Quatlebaum, Julian K., 3 West Perry
St., Savannah
Rabhan, L. J., 431 Whitaker St., Sa-
vannah
Redmond, C. G., 707 Barnard St., Sa-
vannah
Rosen, Samuel F., 4 East Jones St.,
Savannah
Sanford, Shelton P., U. S. Marine
Hospital, Savannah
Schwalb, Otto W., 1½ East Gordon St.,
Savannah
Sharpley, H. F., DeRenne Apartments,
Savannah
Shaw, L. W., 124 East Oglethorpe Ave.,
Savannah
Shearouse, William, 14 East Taylor St.,
Savannah
Thomas, M. R., 202 East Oglethorpe
Ave., Savannah
Train, J. K., 1107 Bull St., Savannah
Usher, Chas., 6 East Liberty St., Sa-
vannah
Usher, J. A., 1302 Bull St., Savannah
Waring, A. J., DeRenne Apartments,
Savannah
Waring, T. P., DeRenne Apartments,
Savannah
Whelan, E. J., 14 West Jones St.,
Savannah
Williams, L. W., 107 East Jones St.,
Savannah

CHATTOOGA COUNTY**Officers**

President.....Hall, F. W.
Vice-President.....Talley, R. E.
Secretary-Treasurer.....Brown, H. D.
Delegate.....Smith, Inman

Members

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Bryant, W. J., Summerville (Hon.)
Chunn, S. S., Trion
Funderburk, N. A., Trion
Hair, W. B., Summerville
Hall, F. W., Summerville
Little, R. N., Summerville
Robinson, G. G., Trion
Shamblin, B. F., Lyerly (Hon.)
Smith, J. A., Lyerly (Hon.)

Talley, R. E., Trion
Tyner, J. R., 2922 College Ave., Alton,
Ill.
Wood, M. N., Adair St., Valdosta
(Hon.)
Smith, Inman, Trion

CHEROKEE COUNTY**Officers**

President.....Moore, R. M.
Vice-President.....Coker, N. J.
Secretary-Treasurer.....Brooke, Geo. C.
Delegate.....Coker, Grady N.

Members

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Boring, J. R., Canton
Brooke, Geo. C., Canton
Coker, Grady N., Canton
Coker, N. J., Canton
McCain, M. C., Marble Hill (Hon.)
Moore, R. M., Waleska (Hon.)
Murphy, F. B., Canton
Pettit, J. T., Canton
Roper, C. J., Jasper
Turk, J. P., Nelson
Vansant, T. J., Woodstock

CLARKE COUNTY**Officer**

Secretary-Treasurer.....Davis, J. W.

Members

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Birdsong, H. W., Athens
Bryant, C. H., Comer
Cabaniss, W. H., Athens
Canning, G. T., Athens
Coile, F. W., Winterville
Davis, J. W., Athens
Dickens, C. H., Madison
Fullilove, H. M., Athens (deceased)
Gerdine, Linton, Athens
Gholson, W. D., Danielsville
Goss, R. M., Athens
Harris, H. B., Athens
Holiday, J. C., Athens
Hubert, M. A., Athens
Hunnicut, J. A., Jr., Athens
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 Banton, Houston J., Fort Benning (Asso.)
 Berry, Arthur N., Murrah Bldg., Columbus
 Blackmar, Francis B., Swift-Kyle Bldg., Columbus
 Branstadt, Wayne G., Fort Benning (Asso.)
 Brannen, O. C., Murrah Bldg., Columbus
 Brooks, H. W., Buena Vista
 Brummette, Jas. S., Fort Benning (Asso.)
 Bush, John, Swift-Kyle Bldg., Columbus
 Carter, C. B., 1545 Third Ave., Columbus
 Cirlot, J. S., Fort Benning (Asso.)
 Cook, Wm. C., Swift-Kyle Bldg., Columbus
 Cooke, W. L., Doctors Bldg., Columbus
 Corby, John F., Fort Benning (Asso.)
 Dexter, C. A., Murrah Bldg., Columbus
 Dillard, Guy J., Murrah Bldg., Columbus
 Duckworth, Jas. W., Fort Benning (Asso.)

Dykes, A. N., Swift-Kyle Bldg., Columbus
 Fraser, Henry E., Fort Benning (Asso.)
 Gauter, Claude V., Fort Benning (Asso.)
 Gilliam, O. D., Doctors Bldg., Columbus
 Graham, O. L., Fort Benning (Asso.)
 Hall, M. W., Fort Benning (Asso.)
 Jenkins, W. F., Columbus City Hospital, Columbus
 Johnson, J. H., Murrah Bldg., Columbus
 Jordan, W. P., Doctors Bldg., Columbus
 Kinberger, Albert G., Fort Benning (Asso.)
 Lanahan, C. R., Fort Benning (Asso.)
 Leary, Thos. J., Fort Benning (Asso.)
 Mahaney, J. H., Woolworth Bldg., Columbus
 Mathews, Stanley W., Fort Benning (Asso.)
 Mayher, J. W., Swift-Kyle Bldg., Columbus
 Mayher, W. E., Columbus City Hospital, Columbus
 McDuffie, J. H., Jr., Masonic Temple, Columbus
 McDuffie, J. H., Sr., Masonic Temple, Columbus (Hon.) (deceased)
 Mordecai, Alfred, Fort Benning (Asso.)
 Moses, Alice, 1250 Emerson St., Denver, Colo.
 Murray, G. S., Swift-Kyle Bldg., Columbus
 North, W. D., Fort Benning (Asso.)
 Nylen, Arthur H., Doctors Bldg., Columbus (Asso.)
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 Pomerance, Joseph, Station Hospital, Fort Benning
 Rea, R. P., Fort Benning (Asso.)
 Schley, Francis B., Swift-Kyle Bldg., Columbus
 Smith, L. L., Fort Benning (Asso.)
 Smith, W. A., Fort Benning (Asso.)
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 Stewart, T. H., Jr., Fort Benning (Asso.)
 Threatte, Bruce, Swift-Kyle Bldg., Columbus
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 Walker, John E., Masonic Temple, Columbus
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Bush, Albert R., Hawkinsville
Coleman, W. A., Eastman
Massey, W. F., Chester
Harris, E. C., Hawkinsville
Massey, W. F., Chester
Parkerson, I. J., Eastman
Pirkle, W. H., Cochran
Powell, Jno. F., Gresham (Hon.)
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Smith, J. M., Cochran
Tolleson, H. M., Eastman
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Member

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Little, Tom F., Cedartown
Lucas, W. H., Cedartown
McBryde, T. E., Rockmart
McGehee, John M., Cedartown
Peek, C. W., Cedartown
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White, Geo., M., Rockmart
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Member

Clodfelter, Thos. C., Eatonton

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Green, J. A., Clayton

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Delegate.....Martin, F. M.
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Gary, Loren, Jr., Shellman
Gary, Loren, Georgetown
Harper, T. F., Coleman
Martin, F. M., Shellman
McCurdy, E. C., Shellman
Patterson, F. D., Jr., Ames, Iowa
(Asso.)
Patterson, J. C., Cuthbert
Rogers, F. S., Coleman
Saurez, Annette McD., Cuthbert (Hon.)
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Delegate.....Traylor, Geo. A.
Alternate Delegate.....Battey, W. W.
Alternate Delegate.....Cranston, W. J.

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Blanchard, P. G., Appling
Brittingham, Jno. W., 1345 Greene St., Augusta
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Eve, H. J., 619 Greene St., Augusta
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Mulherin, F. X., 1001 Greene St., Augusta
Mulherin, Philip A., 1001 Greene St., Augusta
Mulherin, W. A., 1001 Greene St., Augusta
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Phinizy, Druin, Southern Finance Bldg., Augusta
Phinizy, Thomas, 501 Greene St., Augusta
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Pund, Edgar R., University of Georgia School of Medicine, Augusta
Rhodes, R. L., Southern Finance Bldg., Augusta
Roberts, W. H., 828 Greene St., Augusta
Robertson, J. Righton, 1345 Greene St., Augusta
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Roule, J. Victor, Southern Finance Bldg., Augusta
Scharnitzky, E. O., Southern Finance Bldg., Augusta
Sherman, John H., 1122 Johns Road, Augusta
Silver, D. M., Southern Finance Bldg., Augusta
Sydenstricker, V. P., University Hospital, Augusta
Tessier, L. P., Masonic Temple, Augusta
Thurmond, J. W., 407 Seventh St., Augusta
Timmons, C. C., Marion Bldg., Augusta
Todd, L. N., Waverly Hills Sanatorium, Waverly Hills, Ky.
Traylor, Geo. A., Southern Finance Bldg., Augusta
Ward, C. D., 1345 Greene St., Augusta
Weeks, J. L., Harlem

Weeks, R. B., Southern Finance Bldg., Augusta
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 Woodbury, Robert, University of Georgia School of Medicine, Augusta
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 Wright, P. B., 1345 Greene St., Augusta

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 Secretary-Treasurer.....Walker, Geo. L.
 Delegate.....Head, M. M.
 Alternate Delegate.....Copeland, H. J.

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 Secretary-Treasurer.....Ayers, Clarence L.
 Delegate.....Heller, W. B.
 Alternate Delegate.....Chaffin, E. F.

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 Chaffin, E. F., Toccoa
 Edge, J. H., Toccoa (Hon.)
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 Bridges, B. L., Ellaville
 Cato, F. L., DeSoto (Hon.)
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 Pendergrass, R. C., Americus
 Prather, W. S., Americus
 Primrose, A. C., Americus
 Scruggs, S. A., Americus
 Smith, Herschel A., Americus
 Stukes, J. T., Americus
 Wise, B. J., Plains
 Wise, B. T., Americus
 Wise, S. P., Americus

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Leonard, W. P., Talbotton
 Thomason, W. E., Talbotton

TALIAFERRO COUNTY**Officers**

President.....Rhodes, Jno. A.
 Secretary-Treasurer.....Nash, T. C.

Members

Nash, T. C., Philomath
 Rhodes, Jno. A., Crawfordville (Hon.)

TATTNALL COUNTY**Officers**

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 Secretary-Treasurer.....Hughes, J. M.
 Delegate.....Strickland, L. V.
 Alternate Delegate.....Hughes, J. M.

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 Branch, A. C., Glennville
 Collins, J. C., Collins
 Hughes, J. M., Glennville
 Jones, R. D., Elza (Asso.)
 Kennedy, J. J., Collins (Hon.)
 Kicklighter, R. B., Glennville
 Rountree, M. A., Reidsville
 Strickland, L. V., Cobbtown
 Tootle, G. W., Glennville
 Walling, C. B., Collins

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President.....Bryan, S. H.
 Vice-President.....Beason, Lewis
 Secretary-Treasurer.....Montgomery, R. C.
 Delegate.....Montgomery, R. C.

Members

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 Bryan, S. H., Reynolds
 Montgomery, R. C., Butler

TELFAIR COUNTY**Officers**

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 Alternate Delegate.....Youmans, C. R.

Members

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 Fussell, J. K., Rhine, R. 1
 Fussell, T. D., Rhine, R.F.D.
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 Kennon, B. M., McRae (Hon.)
 Maloy, C. J., Helena
 Mann, Frank, McRae
 McMillan, Thos. J., Milan
 Neal, J. W., Scot and (Hon.)
 Oliver, J. M., Hazlehurst
 Parkerson, S. T., McRae
 Powell, W. H., Hazlehurst
 Youmans, C. R., Lumber City

TERRELL COUNTY**Officers**

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 Alternate Delegate.....Arnold, J. T.

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 Bowman, R. E., Bronwood
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 Cranford, J. R., Sasser (Hon.)
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 Kenyon, Steve P., Dawson
 Lamar, Lucius, Dawson
 Lewis, J. H., Dawson (Hon.)

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 Delegate.....Wall, C. K.
 Alternate Delegate.....Little, A. D.

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 Austin, G. L., Pavo
 Bell, Rudolph, Thomasville
 Brinson, J. B., Monticello, Fla. (Hon.)
 Brooks, Fletcher H., Thomasville (Hon.)
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 Collins, J. J., Thomasville
 Dykes, J. R., Thomasville
 Erickson, Mary J., Thomasville
 Ferguson, C. H., Thomasville
 Garrett, J. A., Meigs
 Glover, G. B., Monticello, Fla. (Hon.)
 Hill, Roy A., Thomasville
 Isler, J. N., Meigs
 Jarrell, W. W., Thomasville
 Jones, Henry, Coolidge (Hon.)
 King, J. T., Thomasville
 Little, A. D., Thomasville
 Lundy, L. L., Boston
 Moore, H. M., Thomasville
 Palmer, J. B., Thomasville
 Reid, James W., Thomasville
 Sanchez, S. E., Barwick
 Wahl, Ernest F., Thomasville
 Wall, C. K., Thomasville
 Wall, H. A., Ochlochnee
 Watt, C. H., Thomasville
 Williams, J. F., Monticello, Fla. (Hon.)

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Secretary-Treasurer.....Pittman, C. S.
Delegate.....Peterson, N.

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Fleming, C. A., Tifton
Peterson, N., Tifton
Pittman, Carl S.

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Delegate.....Youmans, H. D.
Alternate Delegate.....Findley, C. W.

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Darby, V. L., Brunswick
Findley, C. W., Vidalia
Hall, J. K., Lyons
Meadows, John M., Vidalia (Hon.)
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Odom, W. W., Lyons
Youmans, H. D., Lyons

TRI COUNTY SOCIETY

(Calhoun, Early, Miller)

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Vice-President.....Shepard, W. O.
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Beard, J. S., Edison
Bridges, R. R., Leary
Cheshire, J. L., Damascus
Darden, Holt, Blakely
Evans, W. W., Blakely (deceased)
Gunter, G. O., Newton
Hattaway, J. C., Edison
Hays, W. C., Colquitt
Houston, W. H., Colquitt
Roberts, C. A., Leary
Sharp, C. K., Arlington
Shepard, W. O., Bluffton
Simmons, B. K., Blakely
Standifer, J. G., Blakely
Standifer, W. B., Blakely (Hon.)
Twitty, C. W., Elmodel
Wall, W. H., Blakely
Ward, L. C., Damascus

TRI COUNTY SOCIETY

(Liberty, Long, McIntosh)

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Secretary-Treasurer.....Gibson, B. H.

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Colson, A. C., Riceboro
Gibson, B. Harrison, Allenhurst
Hack, Geo. B., Hinesville
Ogden, I. K., Darien
Welborn, Terry W., Hinesville

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Delegate.....Callaway, Enoch
Alternate Delegate.....Herman, E. C.

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Daniel, B. C., Hogansville
Haddaway, W. H., LaGrange
Hammitt, H. H., LaGrange
Harvey, C. W., Hogansville
Herman, E. C., LaGrange
Ho'der, J. S., LaGrange
McCall, W. R., LaGrange
McCulloh, Hugh, Jr., West Point
McCulloh, Hugh, West Point
Morgan, D. E., LeGrange
Morgan, J. C., West Point
O'Neal, Rance, West Point
O'Neal, R. S., LaGrange
Park, E. R., LaGrange
Phillips, W. P., LaGrange
Ridley, F. M., LaGrange
Slack, H. R., LaGrange
Sloan, Jno. J., P. O. Box 300, Wichita Falls, Texas
Smith, M. E., Grantville
Taylor, J. C., LaGrange
Williams, C. O., West Point

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Belflower, H. M., Sycamore
Rawlins, R. D., Rebecca
Rogers, F. W., Ashburn
Stephens, L. D., Sycamore
Story, W. L., Ashburn
Turner, W. J., Ashburn

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Officers

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Delegate.....Woodall, F. M.
Alternate Delegate.....Taylor, T. B.

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Barron, H. A., Thomaston (Hon.)
Blackburn, J. D., Thomaston
Bridges, B. L., Thomaston
Carter, R. L., Thomaston
Garner, J. E., Thomaston
Harris, C. A., The Rock
McKenzie, J. M., Thomaston
Taylor, T. B., Thomaston
Wilson, Samuel, Yatesville (Hon.)
Woodall, F. M., Thomaston

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Delegate.....Simonton, Fred H.
Alternate Delegate.....Coulter, R. M.

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Crowder, M. M., Kensington (Hon.)
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Gardner, J. L., Sulphur Springs
Hale, B. C., Rossville
Hall, Samuel, P., Jr., LaFayette

Hammond, D. W., LaFayette
Hammond, J. H., LaFayette (Hon.)
Kitchens, S. B., LaFayette
Merriman, L. B., Fort Oglethorpe
Middleton, D. S., Rising Fawn
Murphy, M. W., Ringgold
Murray, O. B., Rossville
Payne, R. Floyd, LaFayette
Shields, H. F., Chickamauga
Shields, J. A., LaFayette
Simonton, Fred H., Chickamauga
Stephenson, Chas. W., Ringgold
Wood, J. P., Flintstone (Hon.)

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Officers

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Secretary-Treasurer.....Lott, W. H.
Delegate.....Pirkle, J. A.

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Deaver, E. S., Monroe
Floyd, Chas. S., Loganville
Gerdine, John, Jersey
Lott, W. H., Monroe
Nunnally, H. B., Monroe
Pirkle, J. A., Monroe
Spearman, W. D., Social Circle
Stewart, Philip R., Monroe
Upshaw, Harry L., Social Circle

WARE COUNTY

Officers

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Delegate.....Reavis, W. F.
Alternate Delegate.....Bradley, D. M.

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Bradley, D. M., Waycross
Brown, R. G., Waycross
Brown, W. E., Fargo
Bussell, B. R., Waycross
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Carswell, H. J., Waycross
DeLoach, A. W., Waycross
Dorminy, A. C., Hoboken
Ferrell, T. J., Waycross
Fleming, A., Folkston
Hafford, W. C., Waycross
Hawkins, L. M., Blackshear
Hendry, G. T., Blackshear
Huey, H. G., Homerville
Johnson, R. L., Waycross
McCoy, W. R., Alma
McCullough, K., Waycross
Minchew, B. H., Waycross
Mixon, W. D., Waycross
Moody, E. A., Nahunta
Oden, Louis H., Jr., Headquarters District I., C.C.C., Fort Moultrie, S. C.
Oden, T. E., Blackshear
Penland, J. E., Waycross
Pomeroy, W. L., Waycross
Reavis, W. F., Waycross
Sawyer, Jas. H., Folkston
Seaman, H. A., Waycross
Smith, Leo, Homerville
Stephens, C. M., Waycross
Stewart, W. K., Alma
Walker, R. C., Waycross
Williams, W. P., Blackshear
Witmer, C. A., Waycross

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MembersCason, H. B., Jr., Warrenton
Davis, A. W., Warrenton
Ware, F. L., Warrenton**WASHINGTON COUNTY****Officers**President Malone, S. B.
Vice-President Newsom, N. J.
Secretary-Treasurer Lennard, O. D.
Delegate Newsom, N. J.
Alternate Delegate Taylor, R. L.**Members**Burdett, J. R., Tennille
Cason, W. M., Sandersville
Dillard, J. B., Davisboro
Helton, B. L., Sandersville
Joiner, B. O., Tennille (Hon.) (deceased)
King, W. R., Tennille
Lennard, O. D., Tennille
Malone, Steve B., Sandersville
Mitchell, L. C., Sandersville
Newsom, N. J., Sandersville
Overby, N., Sandersville
Rawlings, F. B., Sandersville
Rogers, O. L., Sandersville
Taylor, Ralph L., Davisboro
Vickers, T. E., Harrison**WAYNE COUNTY****Officers**

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Vice-President Colvin, J. T.
Secretary-Treasurer Gordon, A. J.
Delegate Leophart, J. A.
Alternate Delegate Colvin, J. T.**Members**Colvin, J. T., Jesup
Gordon, A. J., Jesup
Leophart, J. A., Jesup
Ritch, T. G., Jesup
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Tipton, W. C., Sylvester (Hon.)
Tracy, J. L., Jr., Sylvester
Tracy, J. L., Sylvester (Hon.) (deceased).**BOOK REVIEW**

The Compleat Pediatrician. By Wilburt C. Davison. M.A., D.Sc., M.D., Prof. Pediatrics Duke University. Published by The Duke University Press.

Dr. Davison, in compiling this manual, has reached the acme of pediatric reference works. He has omitted nothing that would be of pediatric value in reference work and has put into a small number of pages a vast store of information.

This book was designed for pediatricians and general practitioners and seems, to me, to have special emphasis placed on the interpretation of symptoms in disease. As Dr. Davison says in his preface, "The best method of gaining a durable and useful knowledge of pediatrics is through the study of patients and their symptoms, instead of a more or less mechanical memorization of descriptions of disease from a systematic text book."

The book is divided into seven chapters and are arranged in the order in which a physician usually interviews, examines and treats a patient. The first chapter deals with symptoms and signs and in detail outlines history taking forms, etc. The remaining chapters take up diseases, prevention, differential diagnosis, laboratory tests, treatment and prognosis in order.

Various common and special methods of procedure are outlined, as well as detailed instruction in these methods.

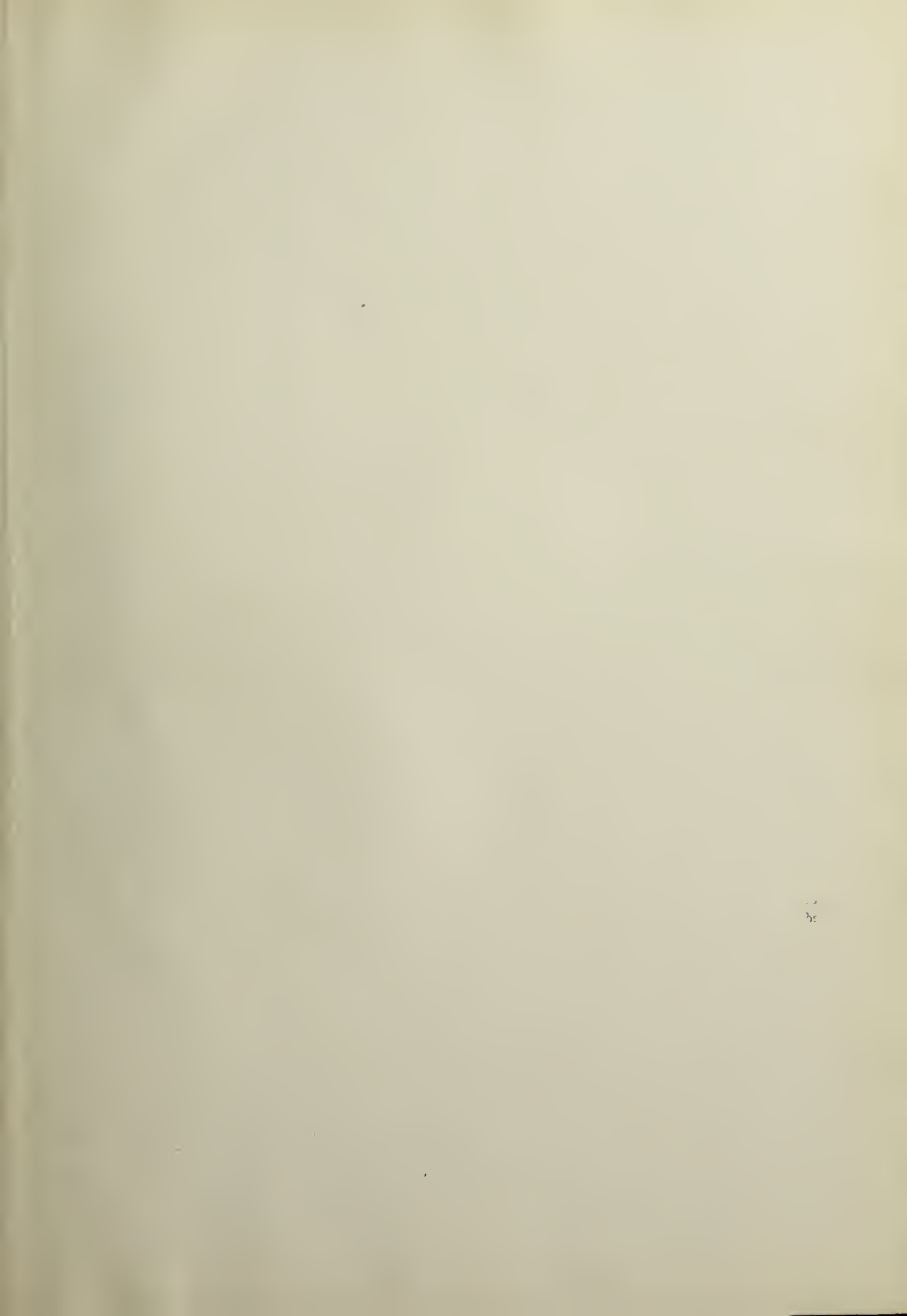
The book is used as a complementary text at Duke University and other schools and may well be recommended to students as well as practitioners.

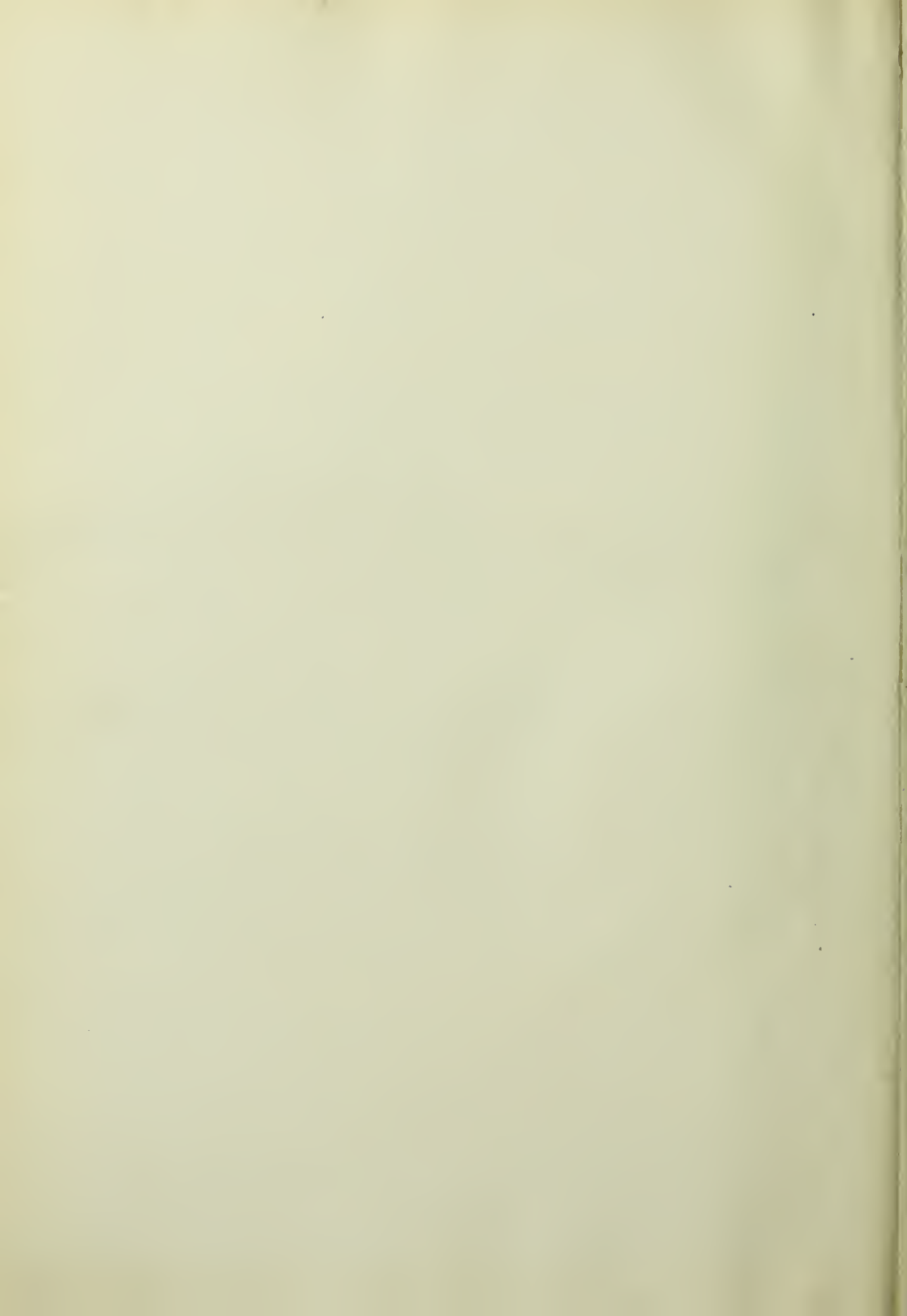
DON F. CATHCART, M.D.

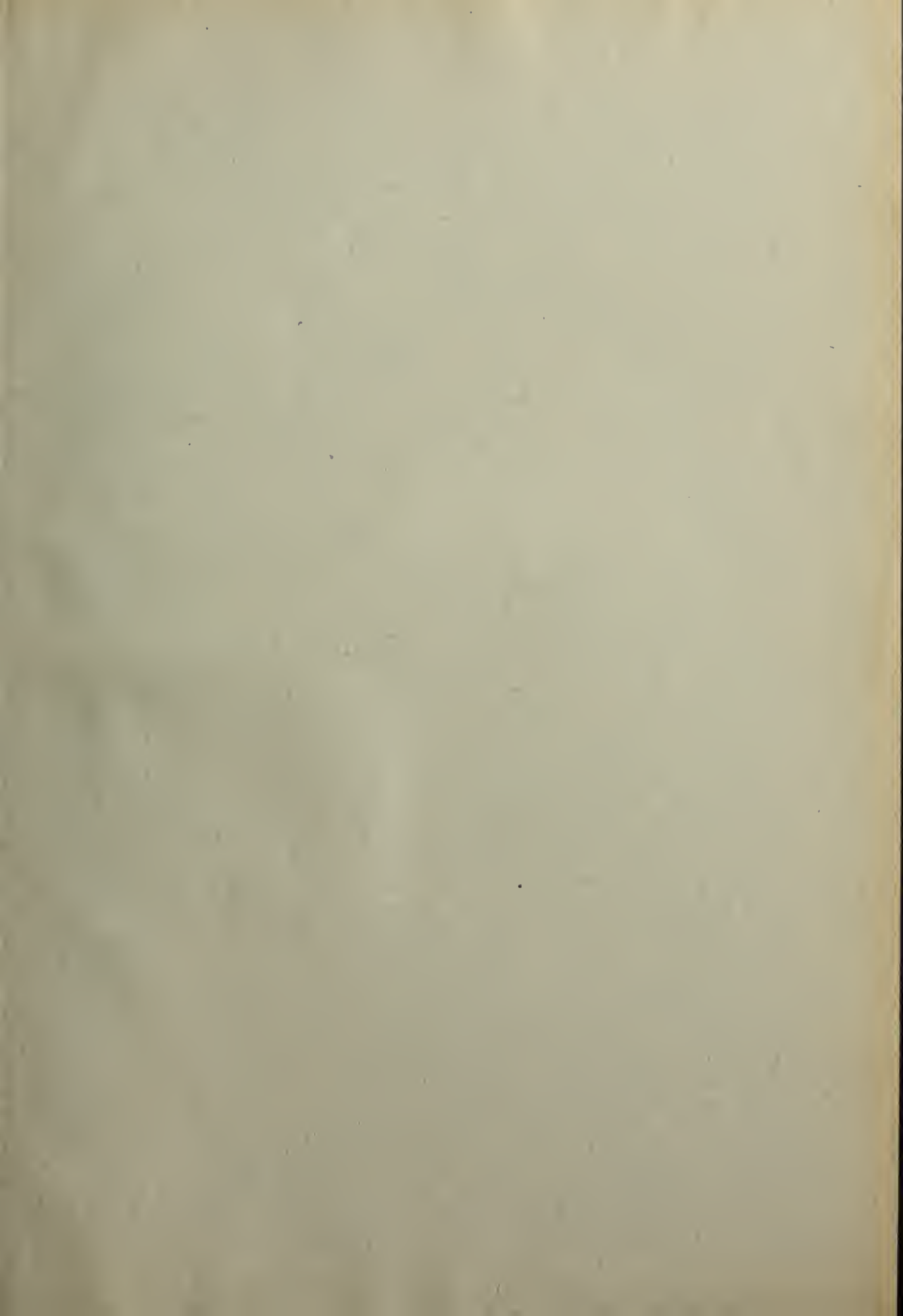
Differential Diagnosis Between Cerebral Hemorrhage and Cerebral Thrombosis. Charles D. Aring and H. Houston Merritt. Archives Int. Med. Vol. 56, No. 3, September, 1935. The authors studied thoroughly the records of 245 cases of cerebral vascular lesions. They present in concise form and very clearly the different signs and symptoms suggestive of the two lesions, also the laboratory work and neurological signs. It is a most interesting study and shows that the two conditions can be differentiated during life by a thorough history and examination. As a general rule cerebral thrombosis is more benign in onset, less prone to progress, less apt to produce eye ground changes, less apt to produce stiffness of the neck, less apt to cause an increased spinal fluid pressure and practically never causes a bloody spinal fluid.

Abstract by Wm. R. Minnich, M.D.

If you work in a profession, in Heaven's name work for it. If you live by a profession, live for it. Help advance your co-worker. Respect the great power that protects you, that surrounds you with the advantages of organization, and that makes it possible for you to achieve results. Speak well for it. Stand for it. Stand for its professional supremacy. If you must obstruct or decry those who strive to help, why—quit the profession. But as long as you are a part of a profession, do not belittle it. If you do you are loosening the tendrils that hold you to it, and with the first high wind that comes along you will be uprooted and blown away and probably you will never know why.—Charles G. Dawes, Former Vice-President of the United States.







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